

The Canterbury Registered Chiropractors Participation in the Canterbury
Health Care Systems Transformational Vision for the Region.

A thesis submitted in fulfillment of the partial requirements for the degree of

Masters of Health Science

By Krystal Short

University of Canterbury 2020

Table of Contents

TABLE OF CONTENTS.....	2
TABLE OF FIGURES	6
TABLE OF TABLES.....	7
COPYRIGHT	10
ACKNOWLEDGEMENTS	11
ABSTRACT	12
GLOSSARY	15
ABBREVIATIONS.....	19
CHAPTER 1: INTRODUCTION	20
THIS RESEARCH PROJECT	26
<i>Aim</i>	26
<i>Objectives</i>	26
<i>Research Questions</i>	27
BACKGROUND.....	28
<i>Canterbury Clinical Network, Canterbury Alliance, and Canterbury Initiative</i>	28
<i>Canterbury Musculoskeletal Group</i>	31
<i>Allied Healthways</i>	31
<i>ERMS database</i>	33
<i>ERMS Online</i>	34
<i>HealthPathways</i>	35
<i>Integrated Care</i>	36
INTEGRATIVE MEDICINE.....	37

WORK FORCE CHANGE	38
TEAMWORK AND PATIENT SAFETY	41
CHIROPRACTIC A LEGITIMATE PROFESSION ON A LEGISLATIVE LEVEL	45
INTERNATIONAL CONTEXT	49
CHAPTER 2: METHODS.....	51
ETHICS APPROVAL	51
QUALITATIVE INTERVIEWS	52
QUANTITATIVE SURVEY.....	55
<i>Sample size</i>	56
<i>Document retrieval and analysis</i>	57
ANALYSIS	58
<i>Survey response</i>	59
<i>Survey representativeness</i>	60
CHAPTER 3: RESULTS.....	63
THE CANTERBURY INITIATIVE	63
THE BACK PAIN PACKAGE/PROGRAMME	64
<i>A “Miracle Moment” for the chiropractic profession</i>	73
<i>Workgroups for the Back Pain Package/Programme</i>	75
<i>Education for the Back Pain Package/Programme</i>	78
<i>Chiropractic liaison role – informal</i>	81
<i>Formation of the Low Back Pain Multidisciplinary Panel (MDP)</i>	82
<i>Canterbury chiropractors knowledge of the Low Back Pain Multidisciplinary Panel (MDP)</i>	84
<i>The development and launch of Allied Healthways</i>	85
<i>Chiropractic informal liaison role shifted to formal individual contract</i>	87
<i>Canterbury Initiative Allied Health Team Chiropractic Liaison role</i>	88

<i>The Dissolution of the Canterbury Initiative Allied Health Team Chiropractic Liaison Contract.....</i>	<i>93</i>
BARRIERS.....	95
RECRUITMENT.....	98
<i>Unclear records as to how many chiropractors have signed up to the ERMS.....</i>	<i>98</i>
<i>Database Formation</i>	<i>100</i>
<i>ERMS Online sign up</i>	<i>102</i>
COMMUNICATION AND IT INFRASTRUCTURE ISSUES	103
<i>Registration requirements for the ERMS Online</i>	<i>103</i>
<i>Mis-information regarding fax and practice management requirements.....</i>	<i>108</i>
BLOCKED IN PAST FROM JOINING CDHB PROGRAMMES	111
<i>Blocked from signing up to ERMs in the past.....</i>	<i>111</i>
<i>Lack of engagement.....</i>	<i>112</i>
DYSFUNCTION IN RELATIONSHIPS WITH GPs	113
PRIVATE PRACTICE BUSINESS MODEL	114
DIFFERENT PHILOSOPHICAL PARADIGMS	117
PSYCHOLOGICAL AND BEHAVIOURAL FACTORS	120
<i>Old belief system – marginalisation and ostracised.....</i>	<i>120</i>
<i>Living in a bubble – self exclusion and isolationist</i>	<i>121</i>
LEGAL CONSIDERATIONS	122
EDUCATIONAL FACTORS	126
FACILITATORS AND ENABLERS.....	132
<i>Submitting chiropractic evidence based research under the Allied Healthways feedback option</i>	<i>132</i>
<i>Recommendation.....</i>	<i>133</i>
<i>Aides to assist ERMS registration and utilise Allied Healthways.....</i>	<i>134</i>
SUMMARY	135
CHAPTER 4: DISCUSSION.....	140

STUDY LIMITATIONS	150
STUDY STRENGTHS	151
CONCLUDING REMARKS	151
REFERENCES.....	153
APPENDICES.....	162
APPENDIX A: PROVIDER LISTING POLICY	162
APPENDIX B: ETHICS APPROVAL LETTERS AND ETHICS CORRESPONDENCE	163
APPENDIX C: INFORMATION SHEETS, AND INFORMED CONSENT DOCUMENTS	167
APPENDIX D: SURVEY	173

Table of Figures

FIGURE 1: DIAGRAM OF CANTERBURY CLINICAL NETWORK ORGANISATION STRUCTURE (CANTERBURY CLINICAL NETWORK, 2020).	29
FIGURE 2: NUMBER OF YEARS A CHIROPRACTOR HAS BEEN IN PRACTICE.....	61
FIGURE 3: CHART DEMONSTRATING THAT ONLY 10% OF BACK PAIN CASES ENTERING THE CHRISTCHURCH HOSPITAL EMERGENCY DEPARTMENT WERE FOR RED FLAGS (CANTERBURY INITIATIVE, 2017).	69
FIGURE 4: KEEL START SCREENING TOOL THE CANTERBURY INITIATIVE ADOPTED.....	73
FIGURE 5: FLOW CHART OF FOR PRACTITIONERS TO FOLLOW WHEN SCREENING AND TRIAGING BACK PAIN CASES IN A PRIMARY HEALTH CARE SETTING	80
FIGURE 6: ADAPTION OF CHADWICK’S ALLIED SOCIAL FIELD’S ILLUSTRATION (CHADWICK, 2017)	147

Table of Tables

TABLE 1: COUNT OF CLAIMS FOR BACK SPRAINS BY THE LODGING PROVIDER, BETWEEN 1 JULY 2015 AND 30 JUNE 2016 FOR CLIENTS CURRENTLY LIVING IN THE CANTERBURY DISTRICT (ACC, 2016)	67
TABLE 2: COUNT OF CLAIMS LODGED FOR BACK SPRAINS BY MONTH LODGED AND LODGING PROVIDER BETWEEN 1 JULY 2015 AND 30 JUNE 2016 FOR CLIENTS CURRENTLY LIVING IN THE CHRISTCHURCH DISTRICT (ACC, 2016)68	
TABLE 3: THE NUMBER OF ACC CLAIMS OF CLIENTS WHO PRESENTED TO CHRISTCHURCH EMERGENCY DEPARTMENT DURING FEBRUARY 2017 AND THE SUBSEQUENT EXPENDITURE (CDHB, 2017)	71
TABLE 4: Q16: LOW BACK PAIN MULTI-DISCIPLINARY PANEL: KNOWLEDGE OF WHO IS ON THE PANEL	84
TABLE 5: Q16: LOW BACK PAIN MULTI-DISCIPLINARY PANEL: KNOWLEDGE OF WHAT IT IS USED FOR	84
TABLE 6: Q16: LOW BACK PAIN MULTI-DISCIPLINARY PANEL: KNOWLEDGE OF WHEN YOU REFER TO THIS PANEL.....	85
TABLE 7: Q16: LOW BACK PAIN MULTI-DISCIPLINARY PANEL: KNOWLEDGE OF WHERE YOU FIND INFORMATION ABOUT THIS PANEL	85
TABLE 8: Q16: LOW BACK PAIN MULTI-DISCIPLINARY PANEL: KNOWLEDGE OF WHY USING THIS PANEL IS IMPORTANT IN APPROPRIATE REFERRAL MANAGEMENT WITHIN THE CDHB	85
TABLE 9: Q8: CANTERBURY INITIATIVE, ALLIED HEALTH TEAM: KNOWLEDGE OF: WHO THE CANTERBURY INITIATIVE ALLIED HEALTH TEAM ARE	91
TABLE 10: Q8: CANTERBURY INITIATIVE ALLIED HEALTH TEAM: KNOWLEDGE OF WHAT THEIR ROLE IS	91
TABLE 11: Q8: CANTERBURY INITIATIVE ALLIED HEALTH TEAM: KNOWLEDGE OF WHAT IS THE ROLE OF THE CANTERBURY INITIATIVE ALLIED HEALTH TEAM CHIROPRACTIC LIAISON	91
TABLE 12: Q8: CANTERBURY INITIATIVE ALLIED HEALTH TEAM: KNOWLEDGE OF WHAT IS THE ROLE OF A CLINICAL EDITOR	91
TABLE 13: Q8: CANTERBURY INITIATIVE ALLIED HEALTH TEAM: KNOWLEDGE OF WHAT IS THE ROLE OF THE PROJECT FACILITATOR	91
TABLE 14: Q17: OF SURVEY PARTICIPANTS 59% WERE MEMBERS OF THE NZCA	100
TABLE 15: Q7: DEMONSTRATING WHETHER CANTERBURY CHIROPRACTORS HAD PREVIOUSLY BEEN CONSULTED ON THE RELEVANCE OF HAVING AN HPI.....	106

TABLE 16: I HAVE BEEN EDUCATED ABOUT THE USE OF THE ERMS AND MY EXPECTATIONS WITHIN THE REFERRAL PROCESS IN THE FOLLOWING AREAS: - THAT I NEED EITHER A FAX MACHINE, E FAX OR HEALTHLINK PORTAL ACCOUNT TO JOIN	111
TABLE 17: Q9: CANTERBURY INITIATIVE BACK PAIN PACKAGE/PROGRAMME: CHIROPRACTORS KNOWLEDGE OF THEIR INCLUSION TO AVOID THE EMERGENCY DEPARTMENT BEEN FLOODED WITH ACUTE LOW BACK PAIN CASES.....	126
TABLE 18: Q9: CANTERBURY INITIATIVE BACK PAIN PACKAGE/PROGRAMME: CHIROPRACTORS KNOWLEDGE OF THEIR INCLUSION DUE TO GENERAL MEDICAL PRIMARY HEALTH CARE PRACTICES BEING AT CAPACITY.....	126
TABLE 19: Q9: CANTERBURY INITIATIVE BACK PAIN PACKAGE/PROGRAMME: CHIROPRACTORS KNOWLEDGE OF THEIR INCLUSION DUE TO GENERAL MEDICAL PRIMARY HEALTH CARE PRACTICES BEEN RECOMMENDED TO REFER ALL NON-URGENT MUSCULOSKELETAL CASES TO CHIROPRACTIC, PHYSIO AND OSTEOPATHY	127
TABLE 20: Q9: CANTERBURY INITIATIVE BACK PAIN PACKAGE/PROGRAMME: CHIROPRACTORS KNOWLEDGE OF THEIR INCLUSION BEING DUE TO - APPROXIMATELY 30% OF PATIENTS ENTERING GENERAL MEDICAL PRIMARY HEALTH CARE PRACTICES ARE FOR MUSCULOSKELETAL CONDITIONS	127
TABLE 21: Q9: CANTERBURY INITIATIVE BACK PAIN PACKAGE/PROGRAMME: CHIROPRACTORS KNOWLEDGE OF THEIR INCLUSION DUE TO THE CDHB IS RUNNING AT A FINANCIAL DEFICIT	127
TABLE 22: Q9: CANTERBURY INITIATIVE BACK PAIN PACKAGE/PROGRAMME: CHIROPRACTORS KNOWLEDGE OF THEIR INCLUSION DUE TO THE CDHB TRYING TO BETTER ALLOCATE RESOURCES.	127
TABLE 23: Q9: CANTERBURY INITIATIVE BACK PAIN PACKAGE/PROGRAMME: CHIROPRACTORS KNOWLEDGE OF THE CANTERBURY INITIATIVE RECOGNISED HOW CHIROPRACTIC SERVICES COULD HELP THE BACK PAIN PROBLEM.	127
TABLE 24: Q10: ERMS USE AND EXPECTATIONS WITHIN THE REFERRAL PROCESS: KNOWLEDGE OF IT IS ATTACHED TO GENERAL MEDICAL PRACTITIONER'S PRACTICE MANAGEMENT SYSTEMS.	128
TABLE 25: Q10: ERMS USE AND EXPECTATION WITHIN THE REFERRAL PROCESS: KNOWLEDGE OF IT ENABLES GENERAL MEDICAL PRACTITIONERS TO REFER OUT TO APPLICABLE SERVICES WITHIN THE PRIMARY AND SECONDARY HEALTH CARE SECTOR	128
TABLE 26: Q10: ERMS USE AND EXPECTATION WITHIN THE REFERRAL PROCESS: KNOWLEDGE OF WHAT IS EXPECTED OF A CHIROPRACTOR IF A REFERRAL IS MADE	129
TABLE 27: Q10: ERMS USE AND EXPECTATION WITHIN THE REFERRAL PROCESS: KNOWLEDGE OF WHAT INTER-PROFESSIONAL COMMUNICATION IS REQUIRED	129

TABLE 28: Q10: ERMS USE AND EXPECTATION WITHIN THE REFERRAL PROCESS: KNOWLEDGE THAT THIS PROGRAM COULD BE USED BY

PLANNERS AND FUNDERS TO RUN PILOT STUDIES IN THE FUTURE	129
---	-----

TABLE 29: Q11:HEALTHPATHWAYS: ALLIED HEALTHWAYS, COMMUNITY HEALTHPATHWAYS, HOSPITAL HEALTHPATHWAYS AND

HEALTHINFO:: KNOWLEDGE OF HOW TO LOGIN AND REGISTER TO THE ALLIED HEALTHWAYS	129
--	-----

TABLE 30: Q10:HEALTHPATHWAYS: ALLIED HEALTHWAYS, COMMUNITY HEALTH PATHWAYS, HOSPITAL HEALTHPATHWAYS AND

HEALTHINFO:: KNOWLEDGE OF- WHAT CLINICAL HEALTHPATHWAY'S ARE	130
--	-----

TABLE 31: Q11:HEALTHPATHWAYS: ALLIED HEALTHWAYS, HEALTH PATHWAYS, COMMUNITY HEALTH PATHWAYS, HOSPITAL

HEALTHPATHWAYS AND HEALTHINFO: KNOWLEDGE OF WHY THEY ARE RELEVANT TO CLINICAL PRACTICE.....	130
---	-----

TABLE 32: Q11:HEALTHPATHAY: ALLIED HEALTHWAYS, COMMUNITY HEALTH PATHWAYS, HOSPITAL HEALTHPATHWAY AND

HAELTHINFO:: KNOWLEDGE OF HOW TO LOOK UP A CLINICAL HEALTHPATHWAY SUCH AS LOW BACK PAIN	130
---	-----

TABLE 33: Q11:HEALTHPATHWAYS: ALLIED HEALTHWAYS, COMMUNITY HEALTHPATHWAYS, HOSPITAL HEALTHPATHWAYS AND

HEALTHINFO:: KNOWLEDGE OF HOW TO SUBMIT FEEDBACK ON A CLINICAL HEALTHPATHWAY	131
--	-----

TABLE 34: Q11 HEALTHPATHWAYS: ALLIED HEALTHWAYS, COMMUNITY HEALTHPATHWAYS, HOSPITAL HEALTHPATHWAYS AND

HEALTHINFO:: KNOWLEDGE OF WHY THIS IS RELEVANT TO HOW YOU REFER AND MANAGE YOU PATIENTS WITHIN THE CDHB	131
---	-----

TABLE 35: Q11:HEALTHPATHWAYS: ALLIED HEALTHWAYS, COMMUNITY HEALTHPATHWAYS, HOSPITAL HAEALTHPATHWAYS AND

HEALTHINFO: KNOWLEDGE OF HOW YOU USE COMMUNITY HEALTHPATHWAYS AS A RESOURCE FOR REFERRAL MANAGEMENT WITHIN THE CDHB E.G. A CASE PRESENTING WITH CAUDA EQUINA	131
---	-----

TABLE 36: Q13 SURVEY PARTICIPANTS WERE ASKED IF THEY CONTRIBUTE FEEDBACK ON THE ALLIED HEALTHWAYS, AND COMMUNITY

HEALTHPATHWAYS WEBSITES.	132
-------------------------------	-----

Copyright

Copyright Statement and Disclaimer:

The copyright of this report is jointly owned by Krystal Short and ENZCAM, University of Canterbury, New Zealand. Apart from any use as permitted under the Copyright Act 1994, no part may be reproduced by any process without written permission from ENZCAM, University of Canterbury. Requests and inquiries concerning reproduction and rights should be directed to the Director of the ENZCAM Department, University of Canterbury, Private Bag 4800, Christchurch, New Zealand. Krystal Short and ENZCAM take great care to ensure the accuracy of the information in this report, but neither Krystal Short, ENZCAM, nor the University of Canterbury make any representations or warranties in respect of the accuracy or quality of information, or accept responsibility for the accuracy, correctness, completeness, or use of this report. The reader should always consult the original database from which each abstract is derived along with original articles before making decisions based on a document or abstract. All responsibility for action based on any information in this report rests with the reader. This report is not intended to be used as personal health advice. People seeking individual medical advice should contact their physician or health professional. The views expressed in this report are those of Krystal Short and ENZCAM and do not necessarily represent those of the University of Canterbury, New Zealand.

Acknowledgements

I would like to thank my supervisors Professor Ian Coulter and Professor Ray Kirk, who have provided me a tremendous amount of support and education toward this project. Their unfaltering support has been invaluable beyond words to me.

I would like to thank the New Zealand Chiropractors' Association for the Postgraduate Mackay Scholarship 2019 in support of this research. Also, thank you to the New Zealand Hamblin Research Trust for chiropractic research, for their grant of this research.

I would like to thank my Professional Supervisor for my chiropractic practice, Maggie Rowe, who has supported me through the tough times in order to complete this research.

I would like to thank my editor, Philippa Drayton, whose invaluable feedback and support gave me the confidence to complete.

I thank and acknowledge my partner Rob and my two girls Poi and Maude for walking this journey with me and supporting me to the finish line.

I thank my late Father, who I had to say goodbye to while on this journey; he taught me the strength to keep going and trust my own ethics.

Abstract

Aim: To investigate why New Zealand registered chiropractors in Canterbury are not participating fully as partners in the recent changes in initiatives, such as the Back Pain Package/Programme, established by the Canterbury Initiative and Canterbury District Health Board (CDHB). In a wider context this might be seen as an exemplar for chiropractic's poor participation in other regional district health boards in Aotearoa New Zealand and could inform policy at a Ministry of Health (MoH) level. Furthermore, it might also provide insight into why other allied health disciplines are not participating either.

Objectives: First, to investigate why so few chiropractors practising within the region of the CDHB are not participating in the Back Pain Package/Programme and subsequently are not signing up to the ERMS. Second, to identify the barriers on a professional, practice, and system level influencing this lack of participation. Third, to investigate how a broader inclusion of the chiropractic profession in the health care sector in New Zealand could be achieved by way of factors that facilitate and enable participation in the Back Pain Package/Programme. Fourth, investigate the consequences to the profession of chiropractors, of not having an understanding of, the Canterbury Initiative / CDHB policy and not participating in it.

Methods: The research was a mixed method study. It adopted a grounded theory approach to its study design. Fourteen qualitative interviews were conducted using purposeful and snowball sampling which were then subject to thematic analysis. A cross-sectional survey of all 69 chiropractors practicing in the region of the CDHB was conducted. The results of this survey were analysed in two phases; firstly the open ended questions were thematically analysed and compared to the themes and codes of the fourteen interviews to determine the most dominant

themes; secondly the closed ended questions were placed into tables for review. Analysis of documents and e-mails was performed. Data was triangulated to inform and support each data set.

Results: The results are examined in three sections: first, an examination of the Canterbury Initiative and the development and implementation of the Back Pain Package/Programme; second, an examination of the barriers that prevented chiropractors participating in this programme; and third, facilitators and enablers for future development. Due to the nature of the mixed method study, both qualitative and quantitative data was used in conjunction when examining the themes of the study. The themes from the data that emerged from this study that acted as barriers to greater chiropractor involvement were: recruitment issues, communication and IT infrastructure issues, blocks in past from joining CDHB programmes, dysfunction in relationships with GPs, the private practice business model, different philosophical paradigms, psychological and behavioral factors, educational factors, and legal considerations. Facilitators and enablers were briefly discussed such as, submitting chiropractic evidence based research under the clinical pathways, relevant to chiropractors scope of practice, within the Allied Healthways system. Furthermore, the research sought feedback on what would allow chiropractors to participate in the Electronic Request Management System (ERMS) and engage with Allied Healthways. If this feedback were implemented then it could change the course of future investment and work in this area.

Conclusion: *Kia Whakakatahi Te Hoe O Te Waka*, We Paddle Our Waka as One, is not a high ideal but a commitment to work together beyond differences. To come into contact with difference and forge a relationship with it, to meet in the *interface*, and develop new forms of knowledge that honor both the traditional medical model, and the non-tangible realities of

Whānau Ora. The Canterbury Initiative Back Pain Package/Programme had a real opportunity to harmonise with the vision of Whānau Ora and align themselves with professions that have a holistic approach such as chiropractic. Chiropractors for their part could have participated in a patient and whānau centered model. The one team approach has not transpired in the Canterbury Initiative Back Pain Package/Programme and from the chiropractic example, we have shown this is due to factors outside and inside chiropractors' control. If the legislative framework is suggesting that failures of teamwork are impacting on public safety, then accountability for the barriers which prevent a one team approach, and that are broader systems issues, is necessary, particularly those that are beyond the individual practitioners' control.

The opportunity for chiropractic to be included into CDHB service provision was a first of its kind for chiropractic both regionally and nationally. This possible inclusion of chiropractic into the Back Pain Package/Programme was in one sense, a miracle moment for the chiropractic profession. The failure to enable chiropractors take up this opportunity as expected by the Canterbury Initiative CDHB, and participate fully as partners is regrettable. Barriers were identified to explain this situation which in some instances may be transferrable to the wider allied health sector in New Zealand. Facilitators and enablers were offered as a solution for future contexts. Some of the barriers and facilitators may also be true of other CDHB programmes that seek to engage the allied health sector in the future. Therefore, this study may be of interest to the Ministry of Health and other regional DHB's for the betterment of population health in relation to back pain.

Glossary

Accident Compensation Corporation (ACC) New Zealand Government agency that “helps to prevent injuries and get New Zealanders back to everyday life if they have had an injury” (ACC, 2020)

Allied Health Aotearoa New Zealand (AHANZ) is an incorporated society that “provides a forum for representatives of allied health professional associations to work together” (AHANZ, 2020).

Allied Healthways “was introduced in 2017, its target audience is allied health providers” (Canterbury Initiative, 2019). Allied Healthways empowers allied health professionals with locally agreed information to make the right decisions, together with patients, at the point of care (HealthPathways, 2020d.). www.canterbury.alliedhealthways.org.nz

Canterbury Clinical Network “is a collective alliance of healthcare leaders, professionals and providers from across the Canterbury health system. CCN provide leadership to the transformation of the Canterbury health system in collaboration with system partners and on behalf of the people of Canterbury” (Canterbury Initiative, 2019).

Canterbury District Health Board (CDHB) Canterbury DHB is based in Christchurch, and covers an area from Kekerengu in the north, down to Ashburton in the south, and inland to the Southern Alps. It also covers the Chatham Islands” (Ministry of Health, 2019b.).

Canterbury Initiative “The Canterbury Initiative team work at the interface between and within secondary care, primary care and community care to engage, facilitate and implement change across the Canterbury health system” (Canterbury Initiative, 2019).

Canterbury Initiative Allied Health Team Allied health professionals play an important role in leading improvements across the health system. The allied health team is involved in: developing clinical pathways in Allied Healthways; facilitating projects to improve service delivery and patient outcomes; communication, and education (HealthPathways, 2020a.)

Clinical Community Programmes The Canterbury Initiative has been instrumental in developing a number of programmes that support patients in the community, the Back Pain Package/Programme is one of these (Canterbury Initiative, 2019).

Community HealthPathways “was the first HealthPathways site developed in 2007. It provides information for general practices teams and other community healthcare providers” (Canterbury Initiative, 2019). www.canterbury.communityhealthpathways.org

Electronic Request Management System (ERMS) “provides easy to use, secure electronic referral forms for most services listed on Community HealthPathways. The ERMS system was developed by the Pegasus Health Application Team, who provide ongoing support to users across the South Island” (Canterbury Initiative, 2019).

ERMS Online It is a web-based solution that allows community based allied health providers to create and send referrals from one discipline/ service provider to another, including, allied health providers and hospital clinicians. Initially dentists, dieticians, occupational therapists, optometrists, physiotherapists (Allied Healthways, December 2019)

Health Practitioner Competence Assurance Act (2003) (HPCA Act (2003)) “The Health Practitioners Competence Assurance Act 2003 (the Act) provides a framework for the

regulation of health practitioners in order to protect the public where there is a risk of harm from professional practice” (MoH, 2018c.).

Health Practitioners Competence Assurance Amendment Act (2019) (HPCAA Act, 2019) a review was undertaken of the HPCA Act (2003) and updated and amended in April 2019. (New Zealand Government, 2019).

HealthInfo “is an easy-to-use patient health information website containing information such as health conditions and diseases, pharmacy and medications, medical tests and procedures, and end of life planning and care. The site started in 2011 as a mechanism to provide information to the public in a post disaster environment” (Canterbury Initiative, 2019).

www.healthinfo.org.nz

HealthPathways “the four HealthPathways sites provide locally agreed best practice guidance with each site’s information written for its specific target audience” (Canterbury Initiative, 2019).

Hospital HealthPathways “whilst designed for use by resident medical staff and can also be used by other Canterbury DHB medical and nursing staff, and allied health personnel” (Canterbury Initiative, 2019). www.canterbury.hospitalhealthpathways.org

Low Back Pain Multidisciplinary Panel “Paper-based review, of patients with acute low back pain. Provides written advice to the general practitioner and treating physical therapist” (Canterbury Initiative, 2019).

Ministry of Health (MoH) “The Ministry of Health leads New Zealand’s health and disability system, and has overall responsibility for the management and development of that system” (Ministry of Health, 2018a.).

New Zealand Chiropractors’ Association (NZCA) “The New Zealand Chiropractors’ Association (NZCA) was founded in February 1922. It is a voluntary self regulatory, supervisory body, serving both the chiropractic profession and the public of New Zealand” (New Zealand Chiropractors’ Association, 2020).

New Zealand Chiropractic Board (NZCB) “The Chiropractic Board is a statutory body operating under the provisions of the Health Practitioners Competence Assurance Act 2003 (the Act)” (New Zealand Chiropractic Board, 2020).

South Island Alliance “enables the region's five DHBs to work collaboratively to develop more innovative and efficient health services than could be achieved independently” (Canterbury Initiative, 2019).

Streamliners: the technical writing company for the CDHB HealthPathways, “Streamliners helps other organisations to capture, share, and maintain their knowledge. We do this by providing audience and content analysis, design, writing, maintenance, and publishing services” (Streamliners NZ Ltd, 2020).

Key Indexing Terms: chiropractic, allied health, team based health care, integrated health care, barriers, NZ health policy, workforce change.

Abbreviations

Accident Compensation Corporation	ACC
Allied Health Aotearoa New Zealand	AHANZ
Anonymous identifier protector	XXX
Canterbury Clinical Network	CCN (in text citations only)
Canterbury District Health Board	CDHB
Common Persons Number	CPN
District health board	DHB
Electronic data Exchange	EDI
Electronic Request Management System	ERMS
General practitioner	GP
Health Practitioner Competence Assurance Act 2003	HPCA Act (2003)
Health Practitioner Competence Assurance Amendment Act 2019	HPCAA Act (2019)
Health Provider Index	HPI
Ministry of Health	MoH (in text citations only)
National Health Service	NHS (UK)
New Zealand Chiropractors' Association	NZCA
New Zealand Chiropractic Board	NZCB
Primary Health Organisation	PHO

Chapter 1: Introduction

The 2017/2018 Canterbury District Health Board (CDHB) *Māori Health Action Plan* is titled *Māori whakataukī: Kia Whakakatahi Te Hoe O Te Waka*, We Paddle Our Waka as One and this title and concept encapsulates the ideal for delivering health care in New Zealand (NZ), which if adopted fully, should lead to the integration of the health professions at the point of delivery of health care. Transforming health care through policy and services has been a focus of both the New Zealand (NZ) Government and the CDHB over recent years. This requires letting go of, or modifying, existing structures to allow for new and innovative ways of delivering health care to emerge, in a manner that better supports communities of interest. (Ministry of Health (MoH), 2016a; 2016b.). Although the New Zealand Government rolled out its vision for future health care in the *National Health Care Strategy* in 2016, the CDHB, and Canterbury Clinical Network, have been pioneering change since 2008. Together they formulated the *Canterbury Clinical Network Implementation Plan* (2008, 2010), detailing their transformational health care vision and whole systems change.

Over four hundred clinical and community representatives were consulted and provided feedback on the formation of this plan; however, the chiropractic profession did not contribute to this consultation process. In part this is because the profession has not actively been invited, but then neither did the profession seek out opportunities to participate. Both the *National Health Care Strategy* (MoH, 2016a.; 2016b.) and the *Canterbury Clinical Network Implementation Plan* (2008, 2010) identified that it is necessary to widen the scope of the healthcare team to include other disciplines that, previously, have not been included in district health board service provision. It was suggested that a one team approach be adopted. By endorsing such an

approach, both policy documents seek to deliver a health care model that is: patient and whānau centered; places an onus on personal responsibility for health; supported by having the whole health care system, and related fields, working together as a integrated team; and to include other disciplines that are not currently included, to ensure a one-team approach (Canterbury Clinical Network Implementation Plan, 2008. 2010, MoH, 2016a.; 2016b.). This research explores how the aforementioned policy is implemented, and whether these ideals of operating as a “one team” are realised at a ground level.

The CDHB and Canterbury Initiative *Provider List Policy* states, “Providers are listed on the following basis: Any health professional registered under the Health Practitioners Competence Assurance Act can be listed on Allied Health Pathways, Community Health Pathways and Hospital Health Pathways” (AlliedHealthways, 2017; Refer to Appendix A the *Provider List Policy*). The chiropractic profession is registered under the Health Practitioners Competence Assurance Act (HPCA Act, 2003). The legislative right to join a health care team does not necessarily mean the process will be an easy one. It is paramount, therefore, that the profession understands the direct and indirect emanations, as a result of legislation, when participating in the health care team (Myburgh, 2014). This research interrogates how having the opportunity to be included in the one team approach, because of the provider list policy, does not necessarily mean chiropractic will be fully included in the health care team if they do not participate in opportunities provided to them or are not fully invited or supported in joining.

In late 2018 a chiropractic representative was appointed to the Canterbury Initiative Allied Health Team to liaise with the registered chiropractic profession and improve relations between general medical practitioners (GPs) and the registered chiropractic profession (Brents,

K. 3rd, October, 2018, 17th October, 2018, personal e-mail communication). This was to expand on previous work undertaken by the Canterbury Initiative in relation to the Back Pain Package/Programme that had been implemented in the region. The Allied Health Team Chiropractic Liaison position was advertised by the Canterbury Initiative and CDHB as a contract for 45 hours per annum (Canterbury Initiative & CDHB, 2018). However, contrary to this, Dr. Brents was instead contracted for 6 months, July 2018 to December 2018, for three hours per month. In December 2018, Dr. Brents entered into different contract with the Canterbury Initiative and CDHB, which ran until December 2019. It equated to 12 hours per month and included work as a clinical editor for the Allied Healthways website while still nominally acting as a liaison between the Canterbury Initiative and CDHB and chiropractors in Canterbury.

Dr. Brents' first task was to liaise with all registered chiropractors in Canterbury and encourage them to sign up to the Electronic Request Management System (ERMS). Subsequently, it was reported that 12/67 chiropractors within the region had signed up to this database for referral of non-urgent musculoskeletal conditions (Brents, K. 3rd, October, 2018, 17th October, 2018, personal e-mail communication). This low sign up to the ERMS could present a problem for both the Canterbury Initiative and the New Zealand chiropractic profession. The lack of reported participation by the chiropractors in Canterbury is rather puzzling, given the statutes that govern the practice of chiropractic in New Zealand that chiropractors are expected to practice as a member of the health care team.

The New Zealand Chiropractic Board (NZCB) (2019a.) conducted a round of consultation with chiropractors and stakeholders of the chiropractic profession. This was in

regard to a recertification programme for newly registered overseas-trained chiropractors. The notice stated:

There are public health and safety risks associated with the failure of a health practitioner to understand the legal, cultural and structural environment in which health care services are provided. The Board has therefore set a recertification programme under section 41 (3)(f) of the Act, requiring all chiropractors whose primary qualification was not obtained in New Zealand, and who register or re-register as a chiropractor after the date of the programme's introduction, to complete education on practising in the New Zealand context (Davis, NZCB, 11 July, 2019, e-mail communication).

A conclusion, therefore, would be that all chiropractors practising in New Zealand are expected to be knowledgeable of the New Zealand context of health care. This would imply knowledge of such things as the Accident Compensation Corporation (ACC) policies, other health care system policy, and legislation. The analysis of submissions from the above consultation suggests otherwise (NZCB, 2019a.).

Registered health practitioners, residing under the Health Practitioners Competence Assurance Act 2003 (HPCA Act 2003) and Health Practitioners Competence Assurance Amendment Act 2019 (HPCAA Act 2019), in New Zealand (NZ) are required to work within ethico-legal frameworks. The NZCB (2015) Code of Ethics provision 2.17.2 states, "Chiropractors should recognise patients' rights to co-operation between their health providers to ensure equality and continuity of care. Refer to the Health and Disability Code of Rights, Rights 4(5)". Based on the above information, there may, therefore, be an expectation on chiropractors

to sign up to the ERMS. Furthermore, the NZCB (2017) has a cultural competency standards of practice framework that practitioners are required to adhere to. Practitioners are required to understand the Treaty of Waitangi (1840) and its influence on both health inequality and disparity. Practitioners are required to practise using culturally safe, and culturally aware practices, and undertake a critical reflective practice or framework for their professional development. Given this, it might be expected that they would sign up for the ERMS.

The vision statement for the CDHB is for:

an integrated health system that keeps people healthy and well in their own homes by providing the right care and support, to the right person, at the right time and in the right place. At its core, our vision is dependent on everyone in the health system working together to do the right thing for the patient and the right thing for the system....We need the whole system to be working for the whole system to work (Canterbury Initiative, 2019, p2.).

Expanding on this, the *Canterbury Clinical Network Implementation Plan* (2008, 2010), in its transformational vision for health care services, seeks to have Whānau Ora (families supported to achieve their maximum health and well-being) (*Canterbury Clinical Network Implementation Plan*, 2010, p.200) as an overarching philosophy and paradigm for health care services in the Canterbury region.

“The whānau ora model is a vision and therefore intangible and difficult to define. It is a holistic way of approaching service delivery, ensuring that whanau are at the centre of the service. Whanau ora aims for better health for all people”

(Canterbury Clinical Network Implementation Plan, 2010, p.200).

The participation by chiropractors in the Canterbury Initiative's Back Pain Package/Programme, and joining the ERMS, provides a golden opportunity to become more connected and contribute to the implementation of Whānau Ora, and the Canterbury health care systems transformational vision for the region. An invitation of this nature, to join district health board service provision, has not occurred previously. For the New Zealand chiropractic profession this could be seen as a miracle moment.

Whānau Ora is a Māori philosophy whereby *taha whānau* (family and patient wellbeing) are at the centre of the health care context. It is a holistic view of health whereby *taha wairua* (spiritual wellbeing), *taha hinengaro* (mental wellbeing), *taha tinana* (physical wellbeing) and social levels of health care are interconnected and cannot be separated (Canterbury Clinical Network Implementation Plan, 2008.2010). A local Kaumatua Nekerangi Paul (personal communication, 17 June, 2019), shared that Whānau Ora means the life force of the Whānau, it is the connecting force of life. It is a world view that would seem to harmonise with that of chiropractic philosophy with regard to health.

Chiropractors in Canterbury, therefore, have an opportunity to align with Whānau Ora because it is a health care paradigm that has a similar ideology and value system to that of chiropractic (Richards, Emmanuel, & Grace, 2017). It is, therefore, not only puzzling their lack of participation, but also it could be of concern both to the New Zealand chiropractic profession and the Canterbury Initiative, if practitioners are not participating and working toward the vision of the CDHB. For this reason it may be of interest therefore to all concerned parties to identify the barriers and look for solutions.

The *Canterbury Clinical Network Implementation Plan* (2008, 2010) has set a clear directive to work with education facilities and researchers to look into areas relevant to the plan and delivery of services that inform the whole of the health system, for local, regional, and national audiences. The study of chiropractic's lack of participation in local policy and initiatives is important, as it could translate to inform the wider allied health sector.

This research project

Aim

To investigate why New Zealand registered chiropractors in Canterbury are not participating fully as partners in the recent changes in initiatives, such as the Back Pain Package/Programme, established by the Canterbury Initiative and CDHB. In a wider context this might be seen as an exemplar for chiropractic's poor participation in other regional District Health Boards in Aotearoa New Zealand and could inform policy at a Ministry of Health level. Furthermore, it might also provide insight into why other allied health disciplines are not participating.

Objectives

1. To investigate why so few chiropractors practising within the region of the CDHB are not participating in the Back Pain Package/Programme and subsequently are not signing up to the ERMS
2. To identify the barriers on a professional, practice, and system level that are influencing this lack of participation

3. To investigate how a broader inclusion of the chiropractic profession in the health care sector in New Zealand could be achieved by way of facilitators and enablers for the Back Pain Package/Programme

4. To investigate the consequences to the profession of chiropractors, of not having an understanding of, and not participating in the Canterbury Initiative / CDHB policy.

Research Questions

1. Why are registered chiropractors, residing in the region of the CDHB, not participating fully as partners in the Back Pain Package/Programme that has been developed and implemented by the Canterbury Initiative and CDHB?

2. Why have the registered chiropractors residing within the region of the CDHB chosen not to, or been prevented from, signing up to the ERMS?

3. What are the barriers preventing registered chiropractors from participating in the Back Pain Package/Programme that has been developed and implemented by the Canterbury Initiative and CDHB?

4. What could aide registered chiropractors to sign up the ERMS and utilise Allied Healthways?

5. How could a broader inclusion beyond a legislative level under the HPCA Act (2003) and HPCAA Act (2019) be achieved?

6. What are the consequences to the profession and practitioners, of chiropractic, generally, and under the HPCA Act (2003) and HPCAA Act (2019), of

not participating in, or having an understanding of, Canterbury Initiatives / CDHB policy?

Background

Canterbury Clinical Network, Canterbury Alliance, and Canterbury Initiative

The Canterbury Clinical Network is New Zealand's largest district alliance and was established in 2010. It has twelve alliance partners, who work together to improve health and wellbeing in the community. The approach brings together clinicians and representatives from across the health care sector to improve health services. It is service transformation led by people who work in the health sector and consumers of health care. They seek to create an integrated health care system (Canterbury Clinical Network, 2019, 2020).

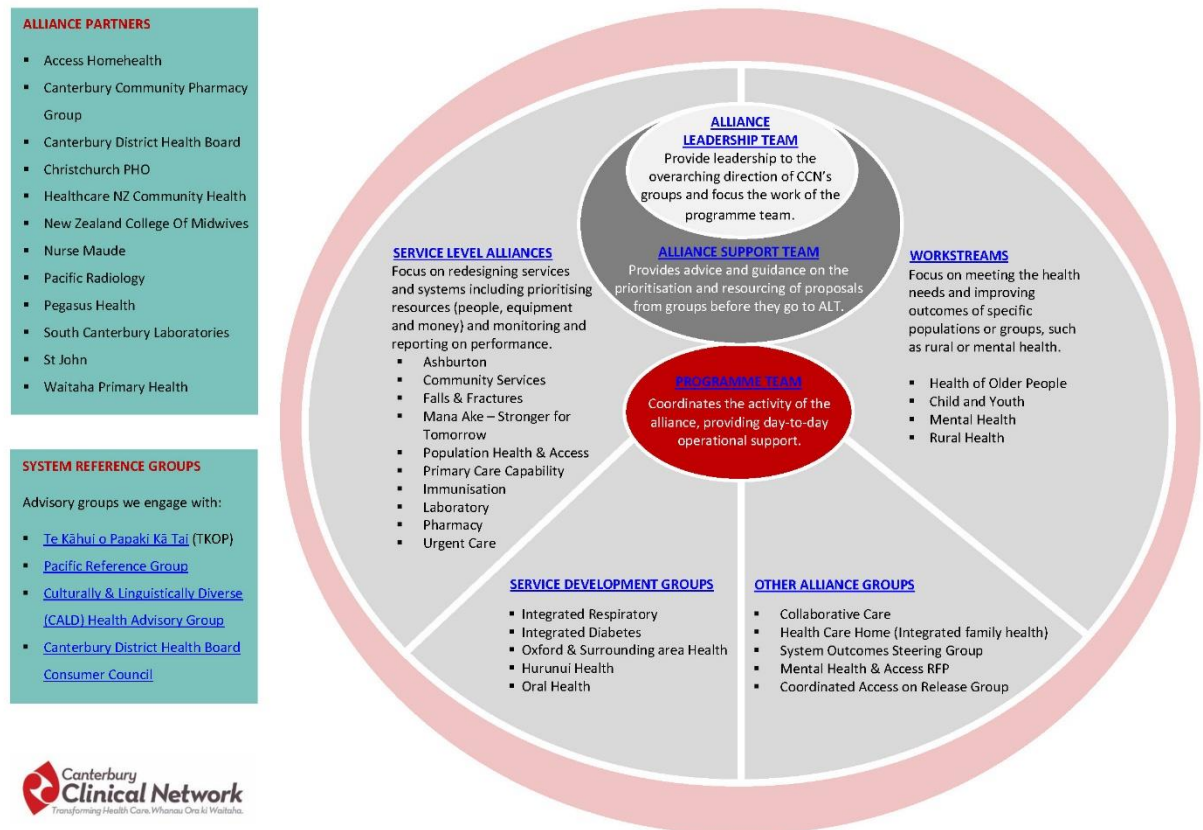


Figure 1: Diagram of Canterbury Clinical Network organisation structure (Canterbury Clinical Network, 2020).

The Canterbury Initiative is a clinical governance group. It is a change management system that facilitates and implements work at the interface between and within primary care, secondary care, and community care. The Canterbury Initiative is funded by the CDHB. They receive their sponsored funding from Carolyn Gullery, the Executive Director, Planning, Funding and Decision Support, CDHB. Gullery leads the team accountable for deciding how Government funding is best utilised to enhance the health and well-being of the Canterbury population (CDHB, 2020). The Canterbury Initiative team then works with the planning and funding team and, secondary, primary, and community care clinicians to: facilitate workgroups, address and progress opportunities that arise in workgroups, and deliver change. Their results are to be based on productivity, delivering positive outputs, which result in outcomes and benefits for the health care system (Canterbury Initiative, 2019; *Canterbury Clinical Implementation Plan* 2008, 2010). The Canterbury Clinical Network developed a *Systems Level Measure Improvement Plan 2019-20*, which is a framework to support and evaluate improvement in various areas, for example reducing admissions to the Emergency Department, COPD management, and falls risk prevention (Canterbury Health System, 2019-20).

The Canterbury Initiative began as the CDHB Referral Project in August 2007. It was put together by Gullery, and led by Dr. David Kerr (Clinical Leader, Canterbury Initiative), Dr. Graham McGeoch (Clinical Editor, Canterbury Initiative), and Bruce Penny (Facilitator, Canterbury Initiative). They worked together with CDHB planning and funding staff and primary care staff and secondary care physicians. Two key drivers for this project were to

decrease acute demand on the Emergency Department, and to address the long wait lists for specialist services referred from general practice, something that if not addressed would continue to escalate as the demands on the health care system grew. The project brought together physicians from different parts of the health sector to facilitate change and come up with a new agreement on how to deliver that change. This relationship building process, which includes new infrastructure, such as HealthPathways referral documents and the ERMS, was a key enabler of this process. The Canterbury Initiative has evolved and expanded to become a change management resource for the Canterbury health system (Canterbury Initiative, 2019). The Canterbury Initiative vision statement is as follows:

The various elements of the health system work together, with our part being to improve the interfaces between and within community, primary and secondary care to ensure:

- Individuals and organisations provide effective healthcare to patients;
- When issues arise between services, people or groups, these are communicated and resolved quickly and effectively
- Healthcare providers and administrators work with a sense of purpose
- Healthcare providers have confidence in what they are doing and can rely on others in the system to fulfil their obligations professionally
- Patients are empowered to care for themselves, and have access to the services and information they need with clarity and efficiency

(Canterbury Initiative 2019, p.2).

Their philosophy they seek to achieve of Whānau ora is recorded in the *Canterbury Clinical Network Implementation Plan* (2008, 2010). This is further detailed in the *Canterbury Māori Health Action Plan 2017-18*.

Canterbury Musculoskeletal Group

One of Canterbury Clinical Network and CDHB initiatives has been the formation of the Canterbury Musculoskeletal Group in 2009. In 2008 a working group was established that included GPs, surgeons, physiotherapists, and musculoskeletal medicine specialists. The Canterbury Musculoskeletal Group proposed a new model of care which included a community-based musculoskeletal service. It is estimated that 30% of conditions entering GP practices have musculoskeletal conditions (*Canterbury Clinical Implementation Plan*, 2010, p.80). There was a real need to ensure that appropriate primary based management of these conditions was developed to avoid unnecessary referral to the secondary sector (*Canterbury Clinical Implementation Plan*, 2008, 2010). It is important to note that chiropractic was not included in this working group, because the focus, at the time, was on the aforementioned health professionals.

Allied Healthways

The Directors of the South Island Alliance (is made up of the regions five DHB's and allows them to work together to develop innovative and efficient services that may not happen if they acted alone) have adopted a broad strategy to use the modified Calderdale Framework (South Island Alliance, 2019). This framework, which originated in the United Kingdom, will help to shape and develop the allied health workforce and address future changing workforce needs (South Island Alliance, 2019). Allied Healthways was launched in mid-September 2017

and is an extension of the HealthPathways resource. It provides best practice clinical guidance tools for the allied health sector, which includes DHB and community providers.

The Canterbury Initiative Allied Health Team is a consortium of various liaison roles for the different allied health disciplines and it has three main tasks: developing clinical pathways in Allied Healthways, facilitating projects to improve service delivery and patient outcomes, as well as communication and education (HealthPathways, 2020).

The Canterbury Initiative Allied Health Team Chiropractic Liaison, Dr. Karyn Brents, was appointed to this team by the Canterbury Initiative Allied Health Team Liaison Leader. Her appointment was to support the on-going delivery of the Back Pain Package/Programme that is expanded on in later chapters. The Canterbury Initiative, Allied Health Team Chiropractic Liaison advised that general medical practices were reaching capacity within the region (Edwards & Canterbury Clinical Network, 2018). The Canterbury Initiative recommended that all non-urgent musculoskeletal conditions be referred to either chiropractic, osteopathy, or physiotherapy. Dr. Brents noted that a survey was conducted seeking GP feedback on their willingness to refer to these various disciplines, and the results showed that GPs wanted to be confident of the knowledge and skills of the other health practitioners (chiropractic, osteopathy, physiotherapy), but were too busy to build relationships with the people to whom they were referring (Brents, K. 3rd, October, 2018, 17th October, 2018, personal e-mail communication).

The role of the chiropractic liaison was to build relationships between the registered chiropractic profession and GPs. Her first contract with the Canterbury Initiative was to liaise with chiropractors to encourage them to sign up to the ERMS database because this provided access to the electronic referral system used by GPs. At a later date, changes in funding within

the CDHB meant her contract shifted to a clinical editor role for the Canterbury Initiative. She still attended to duties regarding the ERMS database but was not directly working on it. She was still available in a liaison role and as a contact point for chiropractors. Throughout her liaison process with the chiropractors she encountered a low sign up rate to the ERMS (Brents, K, 3rd October, 2018, 17th October, 2018, 4th March, 2019, personal e-mail communication). This current research project investigated the reasons behind the decision by most chiropractors not to sign up to the ERMS.

ERMS database

ERMS is a database that is integrated with Medtech, the practice management system used by 90% of general practices in Canterbury. ERMS is a communications and information management system and once fully implemented it will link general practices to the whole health system in Canterbury, that is primary, secondary, and community providers. In its initial roll out it was implemented as a referral system between primary and secondary care; however, later phases of its roll out have been to include links to other services in the primary and community sector, for example, chiropractic. ERMS is an e-referral communication system and database at the interface of care that directs referrals to other service providers. (*Canterbury Clinical Network Implementation Plan*, 2008, 2010).

Because the ERMS database is integrated with the primary health organisation's (PHO's) practice management systems it can provide up to date population demographics. Funders and managers can observe and manipulate intervention rates and this can be used to determine and improve service provision when required. Clinicians can use the system to determine access to services, measure and monitor unmet health need, lobby for re-distribution of scarce resources,

and monitor clinical performance against Healthways. Planning for health care service delivery is based on being able to provide organisations with information about analysis and research that reflects the actual populations being served. For this reason, the ERMS database is more than just an e-referral system, it is an opportunity to capture data to better inform service provision for the future (Canterbury Clinical Network; 2008, 2010). If chiropractors are not signed up to this resource then their ability to have data recorded, that may prove cost-effective and favourable clinical outcomes, is diminished or non-existent.

ERMS Online

One key focus of the Canterbury Initiative is to identify problems clinicians are facing and work toward a resolution for them. The Canterbury Initiative developed an Electronic Information Sharing Project. They sought to investigate how technological advances in the use of practice management systems and electronic communication was affecting practitioners' clinical practice. A survey was distributed by the Canterbury Initiative, seeking feedback on this issue by allied health providers (Friend, Ali, 10/07/2018, e-mail communication, Canterbury Initiative). As part of the ongoing roll out of the ERMS and the intention to include community providers the ERMS Online was developed. The aim of the ERMS Online was to align with the Ministry of Health's directive to phase out the use of faxes. ERMS Online is a web-based solution that allows community based allied health providers to create and send referrals from one discipline/ service provider to another, including allied health providers and hospital clinicians. It is a DHB funded program, so free to use. Initially dentists, dieticians, occupational therapists, optometrists, and physiotherapists, were included in its launch, with the goal of including other allied health providers. As of early 2020, the chiropractic profession does not have access to the ERMS

Online. This is because the ERMS Online team have penciled in chiropractors to be added at a later, but unspecified, date and another barrier is that chiropractors do not have the correct IT infrastructure. From the time ERMS Online went live in November 2018 to December 2019 there have been more than 3,252 referrals made on the ERMS Online (Allied Healthways, 2020b.).

HealthPathways

Another initiative that has been uniquely developed by the Canterbury Clinical Network and Canterbury Initiative, and is now used in over 40 countries around the world, is the HealthPathways referral system. It is a pathway system that is self-regulatory with local agreements on best practice. It consists of four integrated websites: Community HealthPathways, Healthinfo, Hospital HealthPathways, and Allied Healthways. Clinicians/practitioners from various sectors are brought together to determine a patient pathway for a particular condition. They detail treatments that can be managed in the community, what tests GPs should carry out before referring a person to the hospital and how to access resources. Allied Healthways is now in its infancy; the Canterbury Initiative have employed clinical editors, drawing up new documents and refining current documents to support the allied health professions (Allied Healthways, 2019).

The Allied Health Team Chiropractic Liaison has informed the chiropractors in Canterbury of the contribution they could be making to these documents (Brents, 3rd October, 2018, 17th October, 2018, personal e-mail communication). The feedback on the pathways documents is a voluntary process for chiropractors and well as for other practitioners in other disciplines across the sector. Before the chiropractic profession's involvement with the

Canterbury Initiative and Allied Healthways, chiropractic did not feature on these documents, despite being a regulated profession under the HPCA Act, (2003). In the time from 2016 to 2020 chiropractic now features on a few of these pathways documents and this is discussed later. Chiropractic's inclusion on these documents allows an equal representation amongst other professionals and greater access for patients to chiropractic services.

Integrated Care

The *Canterbury Clinical Network Implementation Plan* (2010) has set forth varying initiatives for the region. One of these initiatives is the concept of integrated health and social service clusters. This concept is designed to support health and social services that service a specific community group, to function as an integrated team in the delivery of services for patients. The *Canterbury Clinical Network Implementation Plan* is specific in detailing their initiatives in achieving this goal; they state that cluster participants will include clinical professionals, allied and community health providers, Māori and Pacific providers, social service providers, and co-ordinators within a community group.

Attention is given to maintaining and developing relationships between members of the multidisciplinary team in any given cluster. This goal is to bring about improved patient and system outcomes once a diversity of health and social service providers are operating within a given integrated team cluster. Creating the service mix and participation in this cluster concept is voluntary and evolutionary, and supports will be put in place for this to occur. Proactive approaches looking at working with individuals and teams will be evaluated (*Canterbury Clinical Network Implementation Plan*; 2008, 2010). Evaluating how chiropractic and other complementary alternative medicine enter the team has not happened to date.

Integrative Medicine

Based on Coulter, Khorsan, Crawford and Hsaio's (2010) literature, if the *Canterbury Clinical Network Implementation Plan* (2008, 2010) and *National Health Strategy* (MoH, 2016a; 2016b.) are to deliver integrated care, then chiropractic and complementary alternative medicine (often simply referred to as CAM) should be included. According to Coulter, et al. (2010), integrative medicine is patient centered, and emphasises a preventative and wellness approach to health that is holistic by addressing the physical, emotional, mental, and spiritual levels of the health of a person. Other definitions of *integration* incorporate and include complementary and alternative medicine in the mix of available services.

Allied health is a relatively new concept in the New Zealand context, dating back to 2001, and are defined as professions that reside outside of the dominant medical and nursing workforce (Chadwick, 2017). Allied Health Care Aotearoa New Zealand (AHANZ) (2019), which is a society that represents 28 allied, science, technical, and professional associations and five strategic partners, has been instrumental in lobbying for change in service delivery and greater inclusion of the allied health professions in the New Zealand health care system. The NZCA is a member of this group. AHANZ, and the Primary Health Alliance (2015), believe that the contribution of the allied health sector is stifled under the current GP centered primary health care system. Dr. Martin Chadwick, registered physiotherapist with a background in workforce change, has recently been appointed Chief Officer of Allied Health to the Ministry of Health, New Zealand. His role is to support the 50 plus allied health care professions and in this role he may be able to work with the Ministry of Health to determine how the allied health sector can be better utilised at a policy level (Health Central NZ, 2018).

For the Canterbury Initiative to work for the allied health professions, two things must occur in the various professions. The first is they must expand out of their traditional *silo* boundaries, that is, practising as autonomous professions within their own traditionally defined scope of practice with a minimum degree of integration both with other allied health professions and with the mainstream professions of medicine and nursing. The second is they have to develop a concept of participatory safety, that is, a degree of trust about their psychological safety in new work related relationships. In the following sections I review previous work that has focused on this issue which might provide a theoretical framework for interpreting the data collected on the lack of participation by the chiropractors in the Back Pain Package/Programme.

Work force change

Chadwick (2017) in his research, assessed workforce change of the allied health sector in the Counties Manukau District Health Board. He used Bourdieu's (1977) Theory of Practice to explain the tensions that exist between professions in the healthcare landscape. Bourdieu (1977) illustrates that people exist within social fields and that we have our own "habitus" within that social field. Social capital is made of political, symbolic, cultural, social, and economic factors. Chadwick (2017) then translates this theory to describe the allied health sector as the social field with each profession having its own "habitus" within that social field. Chadwick (2017) drew on various change-based theories, such as psychological philosophy, rational philosophy, cultural philosophy, biological and systems philosophy, critical philosophy, institutional philosophy, and resource philosophy, to develop a change framework which was used to expand or change the space of the habitus for allied health professions. He noted that, initially, each allied professional

operated in a silo; however, throughout the change process, those fields of habitus began to overlap and merge as each profession learnt to work more collaboratively together.

Another concept, which is also part of Bourdieu's (1977) work, is the concept of the "Doxa"; this is the ability to identify people, groups, or professions (in this case) by the way in which they behave or act. There are two categories that professions or professionals can be described within, these being, "nostalgics" who seek to retain the status quo and "activists" who seek to share their skills set for the enhancement of society or community. Those professionals or professions that are defined as "activists" are ones that are more likely to allow their "habitus" to become more "porous", and expand their professional boundaries to stretch into working collaboratively with other professional domains. These professionals, are moving out of protection or defence and are seeking to offer new contributions and insights that would allow a greater embodiment of their profession (Chadwick, 2017; Bourdieu, 1977).

What may be occurring within the context of this research problem is that there are a small group of such "activists" within the Canterbury chiropractic profession, seeking to move beyond their own professional domain, who want to work with the Canterbury Initiative, and a larger group of "nostalgics", who are resisting change and would rather retain the status quo. What is not known, is why this is the case for this unique situation, and what understandings could be drawn from conducting this research.

Professor Mason Durie (Ministry of Research Science Technology, 2005) offers another perspective to the concept of expanding boundaries, which would support the delivery of the *Canterbury Clinical Network Implementation Plan* (2008, 2010) vision of Whānau Ora (Durie & Ministry of Research Science Technology, 2005, p.19). Durie has developed the concept of the

“interface”. The *interface* is the space where Mātauranga Māori (indigenous ways of knowing which include knowledge and understanding of the language (Te Reo) and the invisible and natural world) synergistically meet with the research world of science, to bring about new and improved possibilities for future generations. Principles of the interface include:

- The integrity of traditions. This activity does not water down science or develop pseudo-science. The interface space respects the integrity of the two knowledge traditions.
- Creative possibilities. Synergies and interface exist to create knowledge and not merely describe pre-existing knowledge.
- Divergence and diversity. It is recognised that there are differences between science and Mātauranga Māori (Ministry of Research Science Technology, 2005, p.17.).

If the *Canterbury Clinical Network Implementation Plan* (2008, 2010), seeks to have Whānau Ora as an overarching philosophy and paradigm for health care services, it will need to understand the cultural basis of this approach to health. Deliberation with Māori is vital to this, as partners of tangata whenua of the land, and is part of any research proposal building process in the New Zealand context.

Kaumatua Nekerangi Paul (personal communication, 17 June, 2019) shared that in Te Reo Māori there is a deeper symbolic meaning to the word Pākehā than the version we may be more familiar with, that is, being a New Zealander of primarily European descent, fair skinned, or any non Māori New Zealander (Wikipedia, 2020). It is about acknowledging difference and coming into contact with that difference, and forging a relationship with it. In Te Reo, “*Pā* means to come into contact, to make contact; *Ke* is

related to the word rereke which means different and unique, and *Ha* is to share and exchange the breath” (Costello, 2018, Nahe, 1894). The reason hongi is performed is to share and acknowledge the breath, the hā that connects us all, to come into contact with a unique essence of the hā (Museum of New Zealand Te Papa Tongarewa & Costello, 2018; Nahe, 1894). The chiropractic profession is a diverse profession with mechanistic and vitalistic philosophical ideologies. The chiropractic profession may be able to use these differing perspectives and offer a contribution that supports the implementation of Whānau ora that works synergistically with other disciplines (Richards, Emmanuel, & Grace, 2017).

Teamwork and patient safety

The delivery of health care is enhanced when teams are functioning well within the health care context. Wellar, Boyd, and Cumin (2014, p.151) state, “to overcome the barriers that ingroup/outgroup psychology poses, there is a need to redefine the ‘team’ of health care professionals, from a collection of discipline-based teams, to a cohesive healthcare team”. This would be synonymous with the Ministry of Health’s, *National Health Care Strategy (2016)* to have a one team approach.

There has been research conducted both in New Zealand and internationally on how people function within teams and key relevant elements are outlined here. Edmondson (1999; 2002) researched the concept of psychological safety in team and workplace environments, including some of her early work that related to health care teams. Edmondson and Lei (2014) defines psychological safety as “people’s perceptions of consequences of taking interpersonal risks in a particular context such as a workplace” (p.1). Edmondson and Lei (2014) also note that

part of psychological safety involves an individual's safety to speak up about their concerns and express themselves in team environments. Organisational research has shown that psychological safety is a highly important factor in making sense of phenomena such as voice, teamwork, team learning and organisational learning.

Pullon, Mckinlay, and Dew (2009) conducted a study looking at the organisational factors that affect teamwork in primary health care in New Zealand and identified one of the tenets of primary health care philosophy as inter-disciplinary collaboration. They found that if a common team objective is created, with values such as participatory safety, that is, a mutual respect for others ideas and opinions, fostering open communication, and a focus on high standards of clinical practice this resulted in streamlined organisational processes, high levels of health care practice, patient centered care, and higher levels of job fulfillment.

Pullon et al. (2009, p.191) state, that to be able to function well within team environments certain elements need to apply, including: "prior and concurrent inter-professional education, dedicated time for team development and reflection, appropriate leadership and organisational and structural support". Despite this, in their study, examining the interaction between nurses and doctors in primary health care settings in the New Zealand context, barriers were present such as, organisation within practices and funding models.

Coulter, Hilton, Ryan, Ellison and Rhodes (2008), conducted a stakeholder analysis of a hospital centre for integrative medicine. They found that when integrating complementary alternative medicine or disciplines that have tenets in vitalistic philosophy, into a centre that has a philosophy entrenched in biomedicine, then two differing philosophical paradigms collide. This is not necessarily negative but if there is not a strategy to address how these two differing

sets of views could synergise, within the vision of an organisation, then this inevitably could become a barrier. The research that is the subject of this dissertation expands on Pullon et al.'s (2009) study and draws on the knowledge of Coulter et al.'s (2008) study, to investigate the barriers for chiropractors signing up to ERMS resource.

Pullon et al.'s (2009) study and Wellar et al.'s (2014) literature review found that political, organisational, educational, and cultural barriers exist in teamwork in New Zealand primary health care settings. There have been changes to New Zealand health care policy over recent years to better structure the primary health care system; however, this has not been supported with pragmatic educational and training policies to support the workforce climate (Pullon et al., 2009).

To highlight these updates in Government policy, in 2012 there was a review of the HPCA Act (2003). The Health Practitioners Competence Assurance Amendment Act 2019 was enacted on the 9th April 2019 (New Zealand Government, Parliamentary Council Office, 2019) and updated the principal HPCA Act (2003), whose primary function is to protect patient and public safety.

The key value underpinning the HPCA Act 2003 is the accountability of individual health practitioners for their own clinical practice and application of professional judgement in their clinical practice. The challenge is to ensure this key value operates effectively in a changing environment (Ministry of Health, 2012, p.vi).

During the HPCA Act (2003) review process the Health and Disability Commissioner had noted an increase in complaints related to failures in teamwork and poor communication

amongst health professionals (MoH, 2015). The Ministry of Health *Departmental Disclosure Statement for the Health Practitioner Competence Assurance Bill* (2018b), as well as in the HPCA Act (2003), outline the responsibilities of regional authorities. These documents outline how it “requires an authority to promote and facilitate interdisciplinary collaboration and co-operation in the delivery of health care services”. Dr. Martin Chadwick, Chief Allied Health Professions Officer at the Ministry of Health, stated in a press release (*New Measures being implemented to reduce patient harm*),

Many complaints to the Health and Disability Commissioner are about a lack of team work and communication among professions,” says Dr. Martin Chadwick, Chief Allied Health Professions Officer at the Ministry of Health. “Better team work among health practitioners is important for the delivery of safe health care. Regulators, which include Medical, Nursing and Dental councils, will now be required to promote and facilitate interdisciplinary collaboration and cooperation in the delivery of health services. There will also be more information publicly available on how they respond to complaints (MoH, 2019a.).

Without the training and educational policies in place to support this shift in policy, there may be ramifications to the public and practitioners. As noted by Weller (2014), areas of research that had not yet been addressed included clarification of the link between patient harm and inefficiencies in patient care, particularly failures in teamwork and communication. My research seeks to identify facilitators and enablers that will aide in the participation in the ERMS and Allied Healthways and in doing so should help lessen such gaps.

Within the context of the research problem that is the focus of my dissertation there are some chiropractors in Canterbury that are willing and comfortable to participate in the Canterbury Initiatives, that is, to work more within a health care team. But conversely, there are others who may be unwilling, uncertain, or less comfortable, to step beyond their current “habitus” (Chadwick, 2019). Furthermore, chiropractic now has a representative within Canterbury Initiative Allied Health Team so exploring how their voice is received or hampered within their role, and their ability to liaise with the Canterbury chiropractors, may be factor in this research problem. That is if communication is an issue in this research problem.

[Chiropractic a legitimate profession on a legislative level](#)

Historical events for the chiropractic profession within the New Zealand context may be posing a barrier to the 2019 Back Pain Package/Programme chiropractic situation. The New Zealand chiropractic profession has held statutory regulation since the 1961, but even so has struggled to gain inclusion in service provision at a state level (Inglis, 1979).

There has been a fraught history between chiropractic and medicine both in New Zealand and worldwide since its inception (Baer, 2004; Inglis, 1979). The New Zealand Royal Commission of Inquiry into Chiropractic (1979) viewed the chiropractic profession favorably (Inglis, 1979) and several recommendations were made as a consequence. Despite this, the full recommendations of the report were not implemented, nor have the recommendations of the Ministry Advisory Report (undertaken by the Ministry Advisory Committee on Complementary and Alternative Health, 2004) have been implemented (Short, 2011). This has made it difficult for the New Zealand chiropractic profession to establish a fair and equal footing beyond a legislative level, such as funding beyond the current ACC model, positions in the secondary

sector in New Zealand, or university-based education in New Zealand. There are inequities in the ACC model for chiropractic compared to other musculoskeletal providers, such as physiotherapy (NZCA, 2015). This has impaired equality of position in the health care sector in New Zealand for the chiropractic profession. A formal complaint was placed with ACC by the NZCA on the grounds of discrimination in more than one area (NZCA, 2015). Permission was granted to cite details of the complaint below, but note, however, that the appendices referred to are not appended to this document.

Despite our best endeavours in raising matters of concern through low level relationship channels at ACC over recent years, the NZCA now wishes to respectfully raise a FORMAL COMPLAINT with you regarding:

1. The preferential treatment physiotherapists unfairly enjoy under the ACC Scheme with specific reference to the physiotherapist-only accessed “Physiotherapy Services Contract” and its increased levels of financial subsidies. This effectively means that claimants seeking chiropractic services are being unfairly discriminated against (see Appendix 1 for ACC-provided data on the relative cost of treatment per injury and per claim provided by physiotherapists compared to chiropractors, a relative percentage comparison of claimants receiving weekly compensation of each provider group, and the “2015 NZCA Chiropractic Research Summary on Cost-Effectiveness” demonstrating the favourable cost-effectiveness of chiropractic management);

2. ACC’s lack of responsiveness and subsequent refusal in 2015 of the NZCA’s 2012 formal letter request for extension to the chiropractic claim lodgement

framework (CLF) under the ACC Scheme despite other provider groups either amending current or implementing new CLFs during this time (see Appendix 2 for the NZCA's request and supporting evidence from the Chiropractic Board as requested by ACC); and

3. The lack of innovation, targeted initiatives, or pilot trials created by ACC in the rehabilitation sector generally (see Appendix 3 for the NZCA endorsed Allied Health Credentialing Model provided to ACC in 2011 as a potential best practice pilot model (New Zealand Chiropractors' Association, 15th December, 2015).

The NZCA received two responses from the Honourable Nikki Kaye, Minister for ACC (2016) and Jim Stabback, Chief Operating Officer ACC (2016), and attended a meeting with ACC. However, on 18 May 2016 the NZCA returned correspondence to the ACC to clarify their position; "Unfortunately we do not feel your responses in the Letter have duly addressed the concerns outlined in the FORMAL COMPLAINT made to ACC CEO Scott Pickering on 15 December 2015 (New Zealand Chiropractors' Association, 2016)".

The NZCA did not achieve the result they were seeking and therefore did not pursue this matter any further beyond 18 May 2016, because they made the decision no further success would eventuate (NZCA, 2015; Kaye & ACC, 2016; Stabback & ACC, 2016; NZCA 2016, letters and personal communication).

The chiropractic profession has felt the effects of marginalisation, as explained above, as a result of a biomedical hegemonic system (Baer, 2004). This has had ramifications for the profession internally, as various divisions within the profession have engaged in an internecine

warfare, which has impaired a cohesive voice at a professional association level (Leboeuf, Innes, Young, Kawchuck & Hartvigsen, 2019; Short, 2011). N. Johnson (2007) revealed in her research that there is a trauma that occurs from oppression or within oppressed groups, and if it is not made conscious this perpetuates itself and creates a social injustice. It is by allowing a person to become conscious of the trauma that allows them to forge a new relationship with social systems. Hacker (1951), in her study *Women as a Minority Group*, also illustrated how violence can turn inward when oppression occurs in minority groups. N. Johnson (2007) argues that becoming empowered at an individual level (and, I would argue, by extension to membership within an association) is more effective than trying to change the larger social systems that an individual has no control over. A cohesive professional association voice may support its members engage in a greater participation in the Canterbury Initiative activities.

Short (2011) has proposed that New Zealand chiropractic is an equal and orthodox profession and, therefore, like all other health professions, is required to abide by its statutory responsibilities under the HPCAA 2003. On this basis, chiropractic's inclusion as an equal member of the health care team is warranted.

According to Dew (1998), an acceptance by a major government agency, such as the ACC, is enough to conclude that a profession is orthodox and is part of the dominant medical system. Chiropractic is included by this agency but if chiropractic is not being afforded the equal benefits as other musculoskeletal providers then they are placed at a disadvantage and unfairly so. These issues may affect how the chiropractic profession interacts with third parties or public sector agencies. Although the CDHB is including the chiropractic profession in this scenario,

chiropractors may well feel that a further unfairness may result in the interaction, due to past history and current inequities as referenced on 18 May 2016 to the present in 2020.

ACC (2019) is now expanding policies to include a wider range of complementary alternative therapies. Recently, they conducted a survey that considered including traditional Māori rongōa (plant medicine) in their policy to improve access to services. Of 750 people surveyed, 91% who identified as Māori, 85% reported that they already used rongōa.

If the Ministry of Health and the Canterbury Clinical Network have set a policy to develop a one team approach, then assessing how that occurs within a pragmatic context is necessary. The *Canterbury Clinical Network Implementation Plan* (2008, 2010) noted that systems need to be in place to allow new members to enter the team. A review of the ACC framework and how that organisation impairs chiropractic's equal representation in this scenario would be worthwhile to enhance co-operation. The recognition of chiropractic's full scope of practice is required if the Canterbury Initiative's goals are to be realised.

International context

When examining the international context, the chiropractic profession is well integrated within the health care team in many instances, but in contrast, this is not the case in the New Zealand context. There are examples of chiropractors, who work in interdisciplinary environments and hospitals overseas (Dunn, 2006; & Dunn, Green & Gilford, 2009). Research has been conducted assessing the cost effectiveness and outcomes of chiropractic care in comparison to other treatments; this has had favorable results for chiropractic (Herman, Lavelle, Sorbero, Hurwitz, Coulter, 2019; Herman, Luoto, Kommerareddi, Sorbero, Coulter, 2019; Jarvis, Phillips, & Morris, 1991; Ebrall, 1992; Hurtwitz, E.L., Vassalaki, M., Dongmei, L.I., Schneider,

M.J., Stevens, J.M, Phillips, R.B., Phelan, S.B., Lewis, E.A, Armstrong, R.C 2016a; Hurwitz et al., 2016b.). Comparative research could be conducted in the New Zealand context in Canterbury, if chiropractors were signed up to the ERMS database, because this is a tool used to capture datasets.

In Denmark and Switzerland chiropractic is included at a state level for service provision (Humphreys, Peterson, Muehlemann, & Haueter, 2010; Myburgh, Hartvigsen, & Grunnet- Nilsson, 2008). Research has been conducted examining how chiropractic has worked toward a secondary legitimacy in order to gain further professional recognition at a state level. A three-factor process of politics, practice, and discipline was utilised to evaluate stumbling blocks, solutions (milestones), and implications/effects (Myburgh, et al., 2008,). The New Zealand context could be evaluated against this framework to compare and contrast with the Canterbury Initiative Back Pain Package/Programme. The research problem asks why Canterbury chiropractors are not participating fully as partners in the Back Pain Package/Programme and signing up to the ERMS. Literature was reviewed to explore a possible explanation, and delve into the background of this problem. Pullon et al.'s (2009) teamwork in primary health care settings in New Zealand, Chadwick's (2017) workforce change of the allied health sector in New Zealand and Durie's (Ministry of Research and Science Technology, 2005) concept of the interface provide a theoretical framework to evaluate the research problem against. This research will use a mixed method grounded theory approach to unravel the theory grounded in the data for the Back Pain Package/Programme and the chiropractic example.

Chapter 2: Methods

For my study I used both qualitative and quantitative methods as identified as being useful by Creswell (2015), Creswell and Plano Clark, (2007). Mertens (2009) details in her work a mixed method approach can be used in a transformational paradigm for the purposes of unearthing truths in the chosen research field for minority groups and challenging the status quo. Qualitative interviews were undertaken using a grounded theory approach to ensure the work was grounded in the subject's perspectives and concerns, not simply those of the investigator (Lingard, Albert, & Levinson, 2008).

The methods section addresses the following in order: ethics approval, qualitative interviews, quantitative survey, sample size, document retrieval and analysis, analysis, survey response, survey representativeness.

Ethics approval

Ethics approval was sought from the University of Canterbury Human Ethics Committee and the application was approved on 2 September, 2019, reference HEC 2019/44/LR. Three further amendments were sought throughout the study process: *Amendment 1* approval of the survey, 22 October 2019, HEC 2019/44/LR; *Amendment 2* permission granted to contact survey participants on an individual basis and use continuing professional development credits as an incentive for survey participation (but due to time constraints this was not used because of difficulties in getting clearance from the NZCB, and submitting HEC application for this before reminder notice was sent out), 7 November, 2019, HEC 2019/44/LR; *Amendment 3* to use documents and authored e-mails for data collection, analysis, and report writing, 23 December 2019 HEC 2019/44/LR. Advice was also sought from the Human Ethics Committee on attending

a meeting with the Canterbury Initiative around issues of terminology in the survey with that advice provided on 26 November 2019. (See Appendix B for copies of ethics approval letters and ethics correspondence).

Prior to the collection of data from interviewing and surveying, which will be discussed next, key informants were provided a copy of the information sheet and required to complete the informed consent form before any interview data collection took place. The survey participants were required to read the information sheet and confirm yes or no before any further questions could be answered in the survey. For use of e-mail information, an information sheet was provided to key informants, and informed consents were required to be signed before data could be used for research purposes. (See Appendix C for copies of templates for information sheets and informed consent documents).

Consultation with Māori Ethics advisor Whaea Henrietta Carroll was sought throughout the development of the research proposal. No Māori chiropractors were purposefully sampled nor purposely excluded; the aim of the study was to survey all registered chiropractors in the Canterbury District Health Board. No key informants were purposefully chosen on the basis of their ethnicity.

Qualitative interviews

During the proposal stage of the research process, key informants were selected from organisations that either govern or have an influencing effect on the chiropractic profession's role in the health sector in Canterbury. This included people both within and outside of the chiropractic profession and included those who had held in the past or who hold at the time of research relevant roles. The rationale for choosing each key informant was they were in a

position to have knowledge and information pertaining to the research question. They are not identified in this report to protect the anonymity of participants.

E-mail requests were sent to the key informants requesting their participation in the study. On several occasions follow up e-mail requests were sent at the one-week mark. Fourteen interviews were conducted in this study. Five key informants declined to be interviewed but this did not affect data saturation because interviewing continued until data saturation was satisfied. At the fourteenth interview the researcher was satisfied that data saturation had been met to inform the study. It was identified there were three other key informants that could have been invited, but time constraints of this study's deadlines prevented this. The interviewee's had the option to choose how they wished to be interviewed. Seven chose face to face interviews conducted in the Canterbury region, three were telephone interviews, three were Zoom conference interviews, and one was a Skype interview. The qualitative interviews ensure a validity and trustworthiness of the data and that they are grounded in the reality of the subjects.

The interviews were semi structured and were based on four probe questions:

- Why are registered chiropractors not participating in Canterbury District Health Board and Canterbury Initiative's transformational health care vision for the region?
- Why have 12/67 registered chiropractors (at the time of starting the research) signed up to the ERMS e-referral database?
- How do they see the registered chiropractic profession could contribute to the overarching policy of the *Canterbury Clinical Network Implementation Plan*?

- Are there perceived risks to the profession under the HPCA Act (2003), and in a general capacity, of chiropractors not participating in, or having an understanding of, Canterbury Initiatives or CDHB policy?

Interview lengths ranged from forty minutes to one hour twenty minutes, with the majority of interviews lasting over one hour. In one case a follow up interview was conducted to gather further information that was previously missed. The key informants that had been identified for the study were invited to participate in the research starting on the 5th September 2019. All identified key informants were sent invitations within two weeks of this start date. The first interview commenced on 17th September 2019 and further interviews were staggered thereafter. Other interviewees were approached using snowball sampling, which is accessing key informants from recommendations from the earlier key informants in the study (Noy, 2008). The final interview was conducted on 5th December 2019. Before the interview, participants were given a copy of the questions listed above and advised the interview would initially be framed by those questions. Thereafter additional content that participants considered to be important to the research topic would be further explored.

Interview transcripts were coded (names removed) to protect the anonymity of the participants (Code 1 to Code 14). When quoted material from the interviews is referenced in this report it will reflect these codes for example, (Code 1, Interview, p#.). Once interviews were conducted and recorded, they were transcribed by the researcher. Each participant was given a copy of the transcript of their interview within seven days and offered the opportunity to amend any material. Several participants made amendments to the transcripts. A fourteen day timeframe

was provided to return amended transcripts; however, some participants took much longer due to heavy workloads and pressures.

After this the interview content was subjected to a broad thematic analysis of information that each informant raised. The themes from these interviews informed the development of the cross-sectional survey that will be discussed next, and which uses the approach suggested by Lingard, Albert & Levinson (2008).

Quantitative survey

The quantitative method used in his study was a cross-sectional survey, using the Qualtrics survey instrument endorsed by the University of Canterbury. Qualtrics is a web based survey tool, and therefore e-mail was used to send the survey link to participants who then opened a web browser and completed the survey (University of Canterbury, 2019). A cross sectional survey of the 69 registered chiropractors, working within the region of the CDHB was conducted (Mathers, Fox & Hunn, 2007). A survey instrument was chosen in this case to protect the anonymity of participants and therefore encourage participation in the research. The researcher formulated the survey questions based off themes that emerged from the interviews conducted with key informants. (See Appendix D for copy of survey and questions). The survey was distributed on 30th October 2019 with a reminder notice sent by the Canterbury Initiative Allied Health Team Chiropractic Liaison and the NZCA one week later, and the researcher also contacted the survey participants individually to ensure no participant was left off a database list and given an equal opportunity to participate in the study.

Sample size

In accordance with grounded theory, purposeful sampling of key informants was used in this research (Lingard et al., 2008) as described above. The sample was not, however, limited to this because work related contacts were used when recruiting key informants.

Material from Mathers, Fox, and Hunn (2007) informed the development of the cross-sectional survey for this study. Cross referencing of two databases was undertaken, the Canterbury Initiative Allied Health Team Chiropractic Liaison's database and the NZCA database to determine there were 69 known chiropractors practising in the region of the CDHB. This provided an assurance and confidence that this was the known number of registered chiropractors in the CDHB region at the time of conducting the research and all were surveyed.

The Canterbury Initiative Allied Health Team Chiropractic Liaison formed an e-mail list off the NZCB website in accordance with her Canterbury Initiative role (Brents, K. 3rd October, 2018, personal communication). The researcher considered creating her own e-mail list off the NZCB website to distribute the survey; however, on viewing the database on the NZCB website not all registered chiropractor e-mail addresses were listed and therefore this was not feasible. As a result, permission was sought from the Canterbury Initiative Allied Health Team Chiropractic Liaison for her to distribute the research survey via that e-mail database. To maximise the participation in the survey, the NZCB and NZCA had been asked to distribute the survey via e-mail, which has been done in other studies. The NZCB declined to do so, citing they always decline sending out research surveys when requested, and they do not have the resources to do so (although a New Zealand College of Chiropractic Stakeholder Advisory Committee survey was sent out on 6th May, 2019; the reason for this is unknown). Only e-mail addresses were used in

this research, no postal addresses were sought of participants but there were no participants identified who used only postal addresses. If information arising out of interviews or the survey was ambiguous and required verification then documentary analysis was used as a form of data triangulation to support the trustworthiness of the data (Creswell 2015; Creswell and Plano Clark, 2007). Sometimes documents provided new information not revealed in other data sources.

Document retrieval and analysis

A number of documents were requested throughout the study period that related to the Back Pain Package/Programme and ERMS or that could support to inform the research questions. Pegasus Health is the organisation that develops and runs the ERMS (Pegasus, 2020). A request was made to Pegasus Health (Pegasus Research Audit and Evaluation) for a breakdown of the number of chiropractors, osteopaths, and podiatrists that had joined the ERMS. No response was received.

The Canterbury Initiative Back Pain Package/Programme meeting minutes and Electronic Information Sharing Project survey data results were requested. The Canterbury Initiative advised they would be willing to hand over all information, providing the researcher agreed that the Canterbury Initiative would be identified as the lead author on any published papers and would also be fully engaged in the development, writing, review, and submission of papers prior to submission. Because this is an independent research study in partial fulfilment of the requirements of the Master of Health Sciences, the researcher was unable to honour such a request and did not pursue that avenue. A number of relevant documents, however, were

collected at the time of interviewing, as approved by the Human Ethics Committee at the University of Canterbury.

Upon request the NZCA supplied the following relevant documents: submissions made in relation to the consultation round of the 2012 review of the HPCAA Act (2003), submissions made for the consultation on the National Health Strategy 2015/2016, NZCA formal complaint to ACC documents and responses, submission made to the Nelson DHB in relation to the acute care Health Hub and inclusion of chiropractic, NZCA strategic plan, and the NZCA risk contingency plan. The memorandum of understanding meeting notes for years 2007-2019 were also requested because such documents pertained to identifying action taken regarding the Health Provider Index and Common Persons Number (discussed later) but these documents were classified as confidential documents and as such could not be released. The minutes of meetings were requested for NZCA Regional meetings pertaining to the Back Pain Package/Programme. These meetings were held at a range of venues, such as the practice rooms of NZCA Regional Leader, Dr. Jim Miller, The Tannery Christchurch, and at a Regional NZCA conference (held at either Riccarton Library or Halswell Library Christchurch). No record of any of these meetings has been kept and therefore no details can be reported.

Analysis

The analysis was performed utilising a grounded theory approach. The interviews were subjected to a thematic analysis. The survey was analysed in two phases: first, the open ended questions were thematically analysed and compared to the interview themes to derive the most dominant themes and codes across the data set, and second, the closed ended questions were downloaded onto a excel spreadsheet and then organised into tables. Documentary analysis and

e-mail analysis were used in conjunction with all other forms of analysis to support a triangulation of the data and iron out any inconsistencies that presented in the other data sets.

The first phase of data analysis included performing thematic analysis of the fourteen interviews (Lingard et al., 2008). *nVivo* is a qualitative analysis program that was used to undertake this. Here the data were organised into themes, codes, and sub codes.

The survey data was analysed in two phases: first the qualitative data (free text replies to open ended questions) were thematically analysed and placed into codes. A Microsoft word document was used to undertake this part of the analysis. This was then compared to the codes in *nVivo* that were derived from the interviews and matched to determine what themes were the most dominant in this research. The second component of the survey analysis was to download the closed ended questions into an excel file and sort the quantitative data into tables.

Supplementary documentary analysis and e-mail analysis was also conducted. Cross referencing of material was undertaken if inconsistencies showed up in data. For example, different participants provided the researcher different sets of data pertaining to the same topic. Documents such as meeting minutes were used to clarify any ambiguous information from interviews and the survey.

Survey response

During the survey distribution process it was identified there were 69 known registered chiropractors practising in the CDHB region. In 2019 there were 640 chiropractors holding annual practising Certificates in New Zealand (New Zealand College of Chiropractic Stakeholders Committee, 2019). Chiropractors in Canterbury represent 11% of the total population of registered chiropractors in New Zealand. Of those 69 registered chiropractors 29

responded but four were incomplete responses. These four were still included in the total survey responses, because they provided valuable data for the questions they did answer. The response rate for this survey is 42%. This response rate exceeds the response rate for a recent New Zealand chiropractic survey and according to the New Zealand College of Chiropractic Stakeholders report 42% exceeds international comparisons for survey response rates for the chiropractic profession (New Zealand College of Chiropractic Stakeholders Committee, 2019).

Survey representativeness

The response rate is used as a gauge of the quality and representativeness of a survey. Given that an average response rate is approximately 30% and this survey's response rate exceeds chiropractic industry averages, the response rate of 42% for this survey is comparable to the norm for such surveys in New Zealand (New Zealand College of Chiropractic Stakeholders Advisory Committee, 2019). Although there are techniques for increasing response surveys documented in the literature, such as payment of respondents, they require time and economic resources beyond that available to a Master's student.

Only two sets of demographic data were obtained when conducting the survey. The first was whether participants were members of the NZCA or not. Within the CDHB region 58% of chiropractors are members of the NZCA. In this survey 59% of participants were members of the NZCA and 28% were non-members. Thus this survey fairly represents a portion of members and non-members, eliminating bias in this area.

The second piece of demographic data obtained was the number of years in practice.

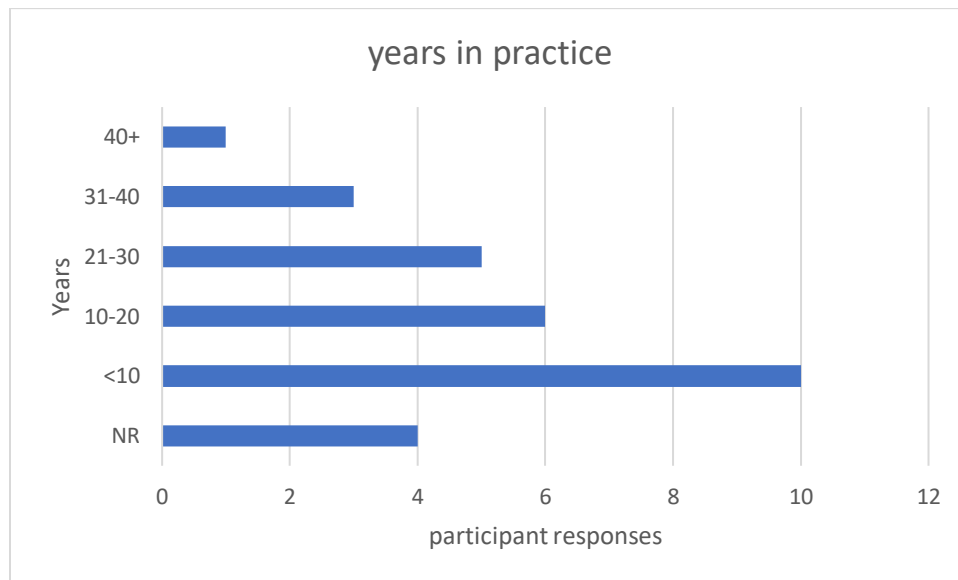


Figure 2: Number of years a chiropractor has been in practice

Although the greatest proportion of participants had been in practice less than 10 years, there is a spread of participants over all year levels in practice, reducing the chance of bias in this case.

Non response bias was mitigated throughout the distribution of the survey. When sending out the survey three organisations were asked if they could disseminate the information: the Canterbury Initiative Allied Health Team Chiropractic Liaison, the NZCA, and the NZCB. The Human Ethics Committee, University of Canterbury, also gave approval for the researcher to distribute the survey to participants on an individual basis. The Allied Health Team, Chiropractic Liaison distributed the survey to 67 chiropractors. The NZCA had an incomplete regional database of chiropractors practising within the CDHB and therefore when distributing the survey missed off several of their members. The NZCB would not distribute the survey, stating they always decline sending out surveys of this nature. This did, however, raise issues of bias when

participants were receiving the survey from some organisations and not others. This may have influenced how practitioners felt about the survey and influenced their decision whether to participate or not. To mitigate this the researcher promptly sought ethics approval to contact each of the 69 practitioners on an individual basis via e-mail (and all 69 were individually contacted) to enable them to have a fair and equal opportunity to participate in the survey. This did increase response rate and prevented any participants from not been included in survey distribution.

Chapter 3: Results

The results section is set out in three sections: first, an examination of the Canterbury Initiative and the development and implementation of the Back Pain Package/Programme; second, an examination of the barriers that prevented chiropractors participating in this programme; and third, facilitators and enablers for future development. Because this is a mixed method study, both qualitative and quantitative data is used in conjunction, in the majority of cases, to support to inform both sets of data.

The Canterbury Initiative

The Canterbury Initiative is a clinical governance group set up in 2009 whose primary function is as a change management vehicle for the Canterbury health care system (*Canterbury Clinical Network Implementation Plan* 2008, 2010). It seeks to address areas of clinical need and has a specific way of working. Workgroups are established, which involves bringing together clinicians and professionals from different areas of the health care system to discuss a problem that exists, with the aim of finding and then implementing a solution. This workgroup forum provides an opportunity to build and establish relationships across disciplines and sectors. The format of the workgroups includes having a blank whiteboard and discussing what is working and what is not in a specific area of interest. From these workgroups, agreements are made, and they are turned into pathways. These pathways are what clinicians use as clinical guidance tools and referral management tools within the Canterbury health care system. A toolbox is used to make visible the work that has been achieved within these workgroups. These tools include: community referred radiology, ERMS, HealthInfo-patient information, Hospital HealthPathways, Community HealthPathways, and Allied Healthways. After the pathway is

established, training provided by the Canterbury Initiative allows clinicians to become aware of and competent in the use of the tools (Canterbury Initiative, 2017, Canterbury Initiative, 2019).

The Back Pain Package/Programme

On the 18th November 2015 a meeting was held by the Canterbury Initiative leadership team, with several representatives from different disciplines from across the Canterbury health system. It was recognised at the meeting, that back pain was a major health issue, one of the highest contributors of disability in New Zealand, and was a significant problem for the Canterbury health care system, which, therefore, needed to be addressed. The imperative was not only clinical, but also fiscal, due to the significant strain back pain issues were placing on the health care system. The *Statistics New Zealand Disability Survey* (2013) found that disease and illness was the primary cause of disability but that accident and injury is a common form of impairment. Accident and injury caused limitation in people's daily activities for 34% of disabled adults. Forty-seven percent of adults with impairment from accident or injury, reported they sustained it in the workplace (Statistics New Zealand, & Macpherson 2013).

The ACC "guide deals with the management of acute low back pain and recurrent episodes-not chronic pain or serious disease and injury" (ACC, 1999, 1997, p.4). The guide defines acute and chronic pain thus:

Acute low back pain

Acute low back pain is common and episodes by definition last less than 3 months. In a few cases there is a serious cause, but generally the pain is non-specific and precise diagnosis is not possible or necessary. If the pain radiates down the leg,

below the knee, there is a greater chance that symptoms are caused by a herniated disc.

After an acute episode there may be persistent or fluctuating pain for a few weeks or months. Even severe pain that significantly limits activity at first, tends to improve, although there can be recurring episodes and occasional pain afterwards. Acute low back pain does not cause prolonged loss of function – unlike chronic back pain.

Chronic back pain

Chronic back pain is defined as pain lasting more than 3 months. It may cause severe disability. Chronic back pain may be associated with Yellow Flags – psychosocial barriers to recovery. Patients with symptoms lasting more than 8 weeks have a rapidly reducing rate of return to usual activity. They are likely to experience difficulties returning to work and suffer work loss (ACC & New Zealand Guidelines Group, 1999, 1997, p.4).

In the Canterbury Initiative workgroups for the Back Pain Package/Programme, opinions were sought from various provider groups. GPs reported seeing one to two cases of back pain per week. This figure then needs to be multiplied by 350 plus GPs practising in the Canterbury region. Physiotherapists reported clinics specialising in musculoskeletal issues were seeing approximately 35 patients per week. In addition to this, it was recognised that a large number of patients were seen by chiropractors, osteopaths, and acupuncturists (Canterbury Initiative, 2015).

Many patients self-refer to allied health professionals, for example, it is estimated that only 10-20% of patients entering physiotherapy clinics came from GP referral (Canterbury Initiative, 2015). ACC data confirms a similar picture for chiropractic practices. ACC data highlight the amount of expenditure for musculoskeletal injury entering chiropractic clinics nationally. On a national basis, between 1st July 2014 and 30 June 2015, chiropractors made 78,760 claims (a claim is a submission of a patient's accident or injury), with a total national expenditure of NZD14,388,011 for those chiropractic claims. The total number of clients receiving chiropractic care for this period was 70,653 and of that 870 clients received chiropractic services three or four times in the year reported. For the majority of these cases, claims were lodged by chiropractors (77%) with the remainder lodged by GPs (13%), physiotherapists (7%), or other health professionals (3%). The clients receiving weekly compensation was 2% and this fell to below 1% for those that had chiropractic care only (ACC, 2016).

During this period of the Back Pain Package/Programme, data were sought by chiropractors on the number of claims filed with ACC and visits per month for back pain in the CDHB. This included various provider types, namely: general medical practice, chiropractic, physiotherapy, and osteopathy. Specific read codes were requested s570, s571, s572, s574 (read codes are codes for specific injuries for example s572 is lumbar sprain/strain). (See Table 1).

Table 1: Count of claims for back sprains by the lodging provider, between 1 July 2015 and 30 June 2016 for clients currently living in the Canterbury district (ACC, 2016)

Claim Count				
Client Region	Chiropractor	General Practitioner	Osteopath	Physiotherapist
Ashburton District	119	647	78	876
Christchurch City	2,884	9,572	1,468	8,965
Hurunui District	119	335	52	317
Kaikoura District	7	85	156	58
Mackenzie District	34	101	<6	137
Selwyn District	652	1,248	289	1,705
Timaru District	437	800	27	1,168
Waimakariri District	779	1531	278	1,397
Waimate District	83	88	10	136
Waitaki District	11	38	<5	37

Table 2: Count of claims lodged for back sprains by month lodged and lodging provider between 1 July 2015 and 30 June 2016 for clients currently living in the Christchurch district (ACC, 2016)

Claim Count				
Month	Chiropractor	General Practitioner	Osteopath	Physiotherapist
July	456	1,121	197	1,320
August	444	1,137	232	1,240
September	464	1,231	200	1,217
October	399	1,183	159	1,186
November	407	1,169	183	1,197
December	386	1,073	196	1,033
January	384	1,093	171	1,110
February	439	1,232	216	1,265
March	420	1,278	177	1,301
April	459	1,295	222	1,230
May	463	1,384	187	1,484
June	404	1,250	227	1,300

Hospital clinicians reported that the Christchurch Hospital Emergency Department was seeing 60 plus patients per month and the majority were discharged back into the community (Canterbury Initiative, 2015). Further work was done by the Christchurch Hospital Emergency Department at a later date, from January to May 2017, to confirm the number of back pain cases

entering the Christchurch Hospital Emergency Department and this confirmed that there were approximately 250 to 300 a month (i.e. 8-10 a day) of acute low back pain cases. Some of these cases were a direct result of significant injury, such as spinal cord injury, rather than back pain. These figures have remained constant (Code 12, Interview). The chart below shows that only 10% of back pain cases entering the Emergency Department were for red flags (to identify potentially serious conditions) and the majority were for back pain cases alone (Canterbury Initiative, 2017).

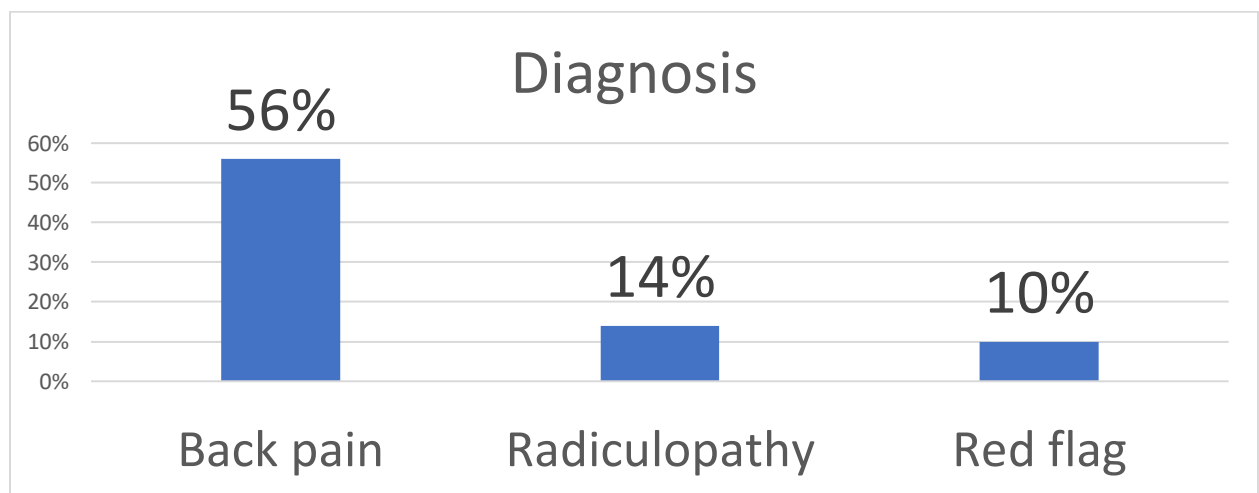


Figure 3: Chart demonstrating that only 10% of back pain cases entering the Christchurch Hospital Emergency Department were for red flags (Canterbury Initiative, 2017).

Table 3 shows the number of ACC claims of clients who presented to Christchurch Emergency Department during February 2017 and the associated expenditure. This only reflects February 2017 and may not be consistent with other data sets (CDHB, 2017).

Table 3: the number of ACC claims of clients who presented to Christchurch Emergency Department during February 2017 and the subsequent expenditure (CDHB, 2017)

Count of Claims	Total cost of claims	Count of claims with weekly compensation
176	NZD157,704	35

The Department of General Medicine at Christchurch Hospital reported a small number of elderly patients admitted for back pain (time period not specified in 2015 meeting minutes). The Department of Neurosurgery has three to four admissions per week for back pain and these have been extensively screened by the Emergency Department. The Department of Orthopedics had minimal numbers of back pain patients due to stricter referral criteria applying, which includes radicular pain and structural abnormality (Canterbury Initiative, 2015).

Most patients requiring secondary level care are able to gain prompt access to services; however, many patients referred for elective secondary care, such as, neurosurgery, orthopedics, or pain services are declined because they do not meet a clinical threshold and there is not the capacity to provide a service to them. In 2015 there was a physiotherapist and occupational therapist on call to the Emergency Department. A proposal was under consideration to have treating clinicians in the Emergency Department to triage back pain patients (Canterbury Initiative, 2015).

The Canterbury Initiative recognised that a multi-faceted package, which included self-management as well as education for patients and clinicians, was needed to address the incidence

and treatment of acute and chronic back pain cases. There was an agreement that all interventions included in this package needed to be evidence-based where appropriate, that there was a priority need to screen for, and provide prompt treatment for, back pain cases to reduce the incidence of chronicity, and the subsequent burden of that. It was also agreed that the intervention strategy be validated and replicable so it could be delivered by practitioners in a standardised way across the Canterbury region. The package was supported by extensive evidence and used a nine-question questionnaire to divide patients into three categories: low, medium, and high risk for back pain (Canterbury Initiative, 2015).

The team approach was seen as crucial in the solution to the addressing the incidence and treatment of back pain cases. Allied health, general practice, physicians, and surgeons would work together to formulate an evidence-based best practice package for the treatment of back pain, which included patient information, pathways, and assessment tools. The workgroups started in February 2016 and targeted four disciplines: GPs and physiotherapists, to which later chiropractic and osteopathy were included. These four groups were to develop a package of care for the initial presentation of non-specific acute and chronic low back pain without neurological findings. There was importance placed on identifying sub-acute patients who were presenting with yellow flags (psychological barriers to recovery, ACC, 2004). They were tasked to review guidance and increase education on opiates for back pain, and to develop and implement a validated screening tool (Keel STarT screening tool), which could be adopted for both general practice and community allied health (Canterbury Initiative, 2015). A copy of the Keel STarT screening tool the Canterbury Initiative adopted is provided below. The tool is a measure of chronicity, not severity of back pain (Canterbury Initiative, 2017).

Thinking about the **last 2 weeks** tick your response to the following questions:

	Disagree 0	Agree 1
1 My back pain has spread down my leg(s) at some time in the last 2 weeks	<input type="checkbox"/>	<input type="checkbox"/>
2 I have had pain in the shoulder or neck at some time in the last 2 weeks	<input type="checkbox"/>	<input type="checkbox"/>
3 I have only walked short distances because of my back pain	<input type="checkbox"/>	<input type="checkbox"/>
4 In the last 2 weeks, I have dressed more slowly than usual because of back pain	<input type="checkbox"/>	<input type="checkbox"/>
5 It's not really safe for a person with a condition like mine to be <input checked="" type="checkbox"/> physically active	<input type="checkbox"/>	<input type="checkbox"/>
6 Worrying thoughts have been going through my mind a lot of the time	<input type="checkbox"/>	<input type="checkbox"/>
7 I feel that my back pain is terrible and it's never going to get any better	<input type="checkbox"/>	<input type="checkbox"/>
8 In general I have not enjoyed all the things I used to enjoy	<input type="checkbox"/>	<input type="checkbox"/>

9. Overall, how **bothersome** has your back pain been in the **last 2 weeks**?

Not at all Slightly Moderately Very much Extremely
☐ ☐ ☐ ☐ ☐
0 0 0 1 1

Total score (all 9): _____ **Sub Score (Q5-9):** _____

Figure 4: Example of the Keel STarT screening tool for back pain (Canterbury Initiative, 2017).

Figure 4: Keel STarT screening tool the Canterbury Initiative adopted

A “Miracle Moment” for the chiropractic profession

The specific aim of the Back Pain Package/Programme was to create more consistent and standardised clinical practice in relation to the back pain problem. It sought to bring together professions such as chiropractic, physiotherapy, and osteopathy and create consistency and standardisation within these groups and amongst them (Canterbury Initiative, 2016, 2017). In the words of one chiropractic respondent, for the chiropractic profession this was somewhat of a “miracle moment”, explaining “we have tried for decades to get better integrated and it sounded like a pretty positive opportunity” but then warns that it is a “massive risk, if we didn’t make the most of the opportunity or consider it seriously” (Code 13, Interview, p.7).

Never before in the New Zealand context has the New Zealand chiropractic profession been included at the level of District Health Board service provision. The Canterbury Initiative needed to reach out to the chiropractic profession. Dr. Crellin, a local chiropractor, who had contacts with personnel working in the Canterbury health care system was invited to join the Canterbury Initiative on 19th July 2016. He, and three other well respected local chiropractors, met on the 3rd August, 2016, with three members of the Canterbury Initiative at BM Craig Associates Ltd, a local chiropractic clinic. When they asked members of the leadership of the Canterbury Initiative why the Canterbury Initiative was including chiropractic now, when for so long it has been excluded the response was a complete surprise.

“[Chiropractor retelling the response] we [Canterbury Initiative] recognise you have a great role to play and that as a profession you have been treating this for a long time and that you are good at it [...] Well we know what you are about and we know your background. We acknowledge that the chiropractors have something to offer” (Code 2, Interview, p.2).

The chiropractors were for the first time invited to take part in the Back Pain Package/Programme. One of the chiropractors describes their experience:

“So the first thing was shock and amazement, the second thing a sense of privilege [...] and the third thing that came with that was, well we don’t want to let this one down, we have one crack at this, and we want to be responsible [...] and we don’t want to look like idiots [...] and we want to stand up for our profession” (Code 2, Interview, p.2).

Chiropractic had now been included in workgroups for the Back Pain Package/Programme, sitting equally amongst other professions.

To involve the wider Canterbury chiropractic community more meetings took place. A further meeting was held on 1st September 2016, at the Canterbury Initiative, CDHB office rooms, organised by Bruce Penny, the Canterbury Initiative facilitator, and Dr. Crellin with the invitation for all chiropractors in Canterbury to attend. They experienced a low attendance, eight chiropractors went. Dr. Crellin decided to work collaboratively with Dr. Miller, Regional Leader NZCA, and held a meeting at his practice rooms for local chiropractors. Similarly, it was reported a relatively low turn-out resulted, (meeting minutes do not exist to report people and numbers in attendance). Another meeting took place at the Tannery, a local mall and eatery, where there was an opportunity for discussion and to ask questions (no meeting minutes exist). At the Christchurch Regional NZCA conference, held at either the Riccarton or Halswell Library (contradicting information provided by participants) Dr. Crellin gave a ten-minute update on the Canterbury Initiative, (again no meeting minutes exist to report details on this meeting). But it is not uncommon for there to be low attendance at chiropractic regional meetings, as one chiropractor said, *“what I mean by well attended is more than twenty people [...] so 20 out of the 67”* (Code 6, Interview, p.6). Without records of meeting minutes facts cannot be ascertained. It was reported to the researcher records are not kept.

Workgroups for the Back Pain Package/Programme

Several workgroup meetings took place over this time period, more specifically, 26 September 2016, 8th November 2016, 21 November 2016, and the 23 November 2016. Key themes emerged from the narrative of these work group meetings (conducted by the

Canterbury Initiative) as told by the interviewees who participated and were recorded in the meeting minutes. (Interviewees were various practitioners, from different disciplines, who work with Back Pain cases, from the primary and secondary sector).

- There needed to be a common package of care to address the problem of back pain regardless of the funding mechanism, for example ACC or self-funded.
- The importance of detecting red and yellow flags (red flags identify potentially serious conditions and yellow flags indicate psychosocial barriers to recovery (ACC, 2004)),
- The detection of chronicity and its implications in low back pain cases
- The importance of inter-professional collaboration and communication amongst different provider groups, with reference to interactions between general practitioners and allied health.
- It was acknowledged that building relationships occurs over time as trust and respect is developed.
- That the information and education imparted to the patient on their first visit is important and the use of common nomenclature across disciplines is crucial.
- That appropriate screening and steps are undertaken to detect chronic low back pain cases.
- That many low risk low back pain cases will improve with advice and exercise.
- That clarity was needed on appropriate guidelines on when to request imaging (Canterbury Initiative, 2016, 2017).

To further add to this, there were key messages (discussion points) that arose out of these workgroup meetings, some which are particularly relevant to the context of chiropractic's involvement (Canterbury Initiatives, 2016, 2017).

- That approximately 10% of referrals entering chiropractic, osteopathy, and physiotherapy clinics are from general practitioner referral.
- The predominant pathway, however, is self-referral.
- That promotion of chiropractic, osteopathy, and physiotherapy to GPs is required
- A referral guideline needed to be followed and adhered to, for example the GP makes a referral to the corresponding practitioner and they return a patient progress report with any relevant patient outcomes of treatment, and any further action required.
- That diversity exists in each professional group, and each group has outliers that may not participate in the Back- Pain Package/Programme. This is true for all professions.
- That low, moderate and high-risk pathways be formulated to create a standardised model of care for acute and chronic back pain.
- That the opioid crisis is a real problem, and as a result 70% of people on medication for low back pain, should not be. That medicating becomes a default option when lack of knowledge of other treatment options exists (Canterbury Initiative, 2016, 2017).

Another Low Back Pain workgroup took place on 15th May 2017 where detailed and robust discussion took place (attendees were not recorded in the workshop notes to determine if same composition existed to other workgroups).

Education for the Back Pain Package/Programme

The Canterbury Initiative recognised that educating allied health disciplines and general practitioners was a key component of providing them the tools to implement the Back Pain Package and change the face of service provision so general practitioners could offer a full range of treatment options. As one chiropractor shared,

“[The Canterbury Initiative reasoned] if we are going to create a pathway, let’s bring the key players in, osteopaths, physios, and chiropractors, people in the field who are actually treating these conditions and should be included in the acute care model”(Code 14, Interview, p.8).

As a result, time and effort was put into preparing educational material for the Back Pain Package/Programme. A presentation called *Low Back Pain a Multidisciplinary Approach* was delivered. The speakers included: Barry Donaldson (Physiotherapist), Dr. Crellin (Chiropractor), Celia Monk (Physiotherapist), Frances Tennet Brown (Osteopath), Maria Donaldson (Occupational Therapist), Dr. Tombros (GP), and the Chair, Dr. McSweeney (GP) (Canterbury Initiative, 2017). The Back Pain Package/Programme was launched in three sessions, on the 15th and 21st March 2017 for GPs, and on the 27 March 2017 for allied health professionals. Invitations were sent to all GPs and allied health professionals, including chiropractic and osteopathy. It was expected that four education

sessions per year would continue to encourage the on-going uptake of the package through the Canterbury health care system (Canterbury Clinical Network, 2016, 2017).

The two objectives of these sessions were:

- First, to increase a standardised level of care for patients and reduce the level of diversity that exists for patients entering a primary health care practice, when seeking treatment for acute low back pain without leg pain.
- Second, to encourage practitioners to review their care plans and seek peer review or second opinion, if progress is slow (Canterbury Initiative, 2016, 2017).

The flow chart below was presented at the education session as a process for practitioners to follow when screening and triaging back pain cases in a primary health care setting (Canterbury Initiative, 2017).

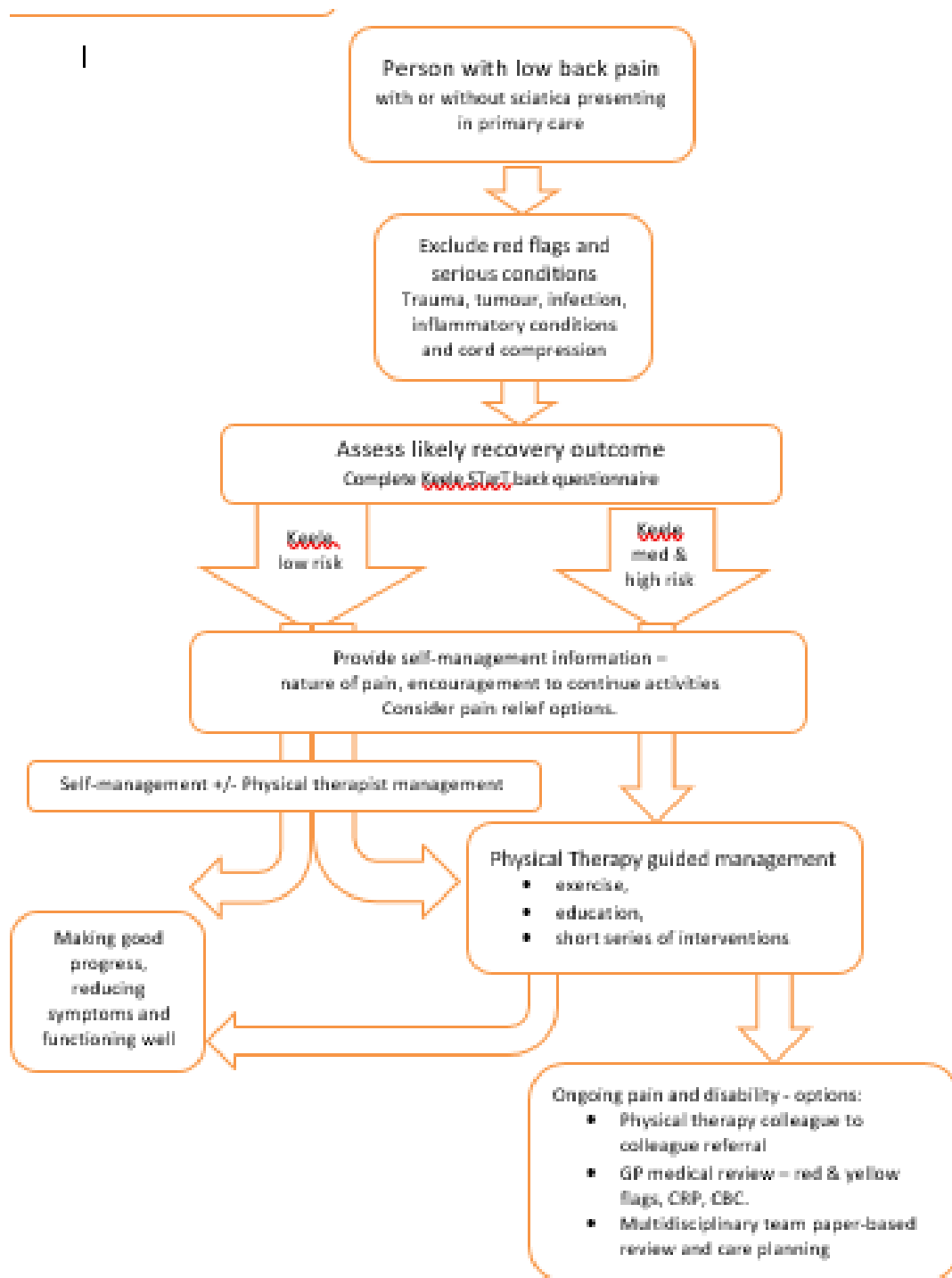


Figure 5: Flow chart of for practitioners to follow when screening and triaging back pain cases in a primary health care setting

The education sessions were considered a great success by the organisers and the seven speakers from five disciplines, who contributed to the events.

Chiropractic liaison role – informal

Dr. Crellin and two other chiropractors worked in a voluntary capacity to further promote the Canterbury Initiative and Back Pain Package/Programme to chiropractors, GPs, and other allied health disciplines in Canterbury. Although they did receive remuneration for attending meetings they first collated information about chiropractic to be displayed on the HealthInfo page (public information page) and then worked on the formation of the low back pain pathways (clinical guidance document), which was included in the workgroup meetings (Canterbury Clinical Network, 2016. 2017). This involved sourcing relevant evidence-based literature to support chiropractic's treatment of acute and chronic low back pain cases. They then extended this to other pathway development such as plantar fasciitis. One of the chiropractors involved explains

“It fell on us to coagulate what we felt the profession could treat low back pain the best, without pushing our own barrow, but without sounding flaky, and non-scientific and we based it on the evidence-based guidelines [...] we looked at a lot of guidelines from around the world and for the treatment of acute low back pain and tried to incorporate all of that, [...] the guidelines were very broad, they don't say the type of chiropractic that is used, just that generally speaking about the things that we know work [...] and that is the principle that we used when we were helping” (Code 2, Interview, p.7).

The chiropractors were asked to put together an algorithm which defined chiropractic's scope of practice in relation to low back pain. Because they were not certain what audience they were writing the algorithm for at times they found it difficult to work within the Canterbury Health system. As a chiropractor noted from individual experience,

"it was very unclear and I had a feeling there was very little communication between allied health and the Canterbury Initiative and it seemed like people weren't certain in their roles, where they started and where they finished" (Code 10, Interview, p.26).

Dr. Crellin worked with the ERMS team to add local chiropractors to the resource. This required educating the chiropractors about the ERMS and then gathering chiropractic practice details to hand over to the ERMS team, so the chiropractors could be added. He gathered information for approximately ten chiropractic practices willing to register, some practices were multi-practitioner practices. In an e-mail response Dr. Crellin made to the ERMS team, requesting how he involved chiropractors so they could follow a similar approach for osteopathy. He responded, *"I forwarded the initial request to all the chiropractors with a note that if they wanted to be included that they should send their information to the ERMS team. Most sent the info to me and then I forwarded it to ERMS"* (Crellin, personal e-mail communication, 22 March, 2018).

Formation of the Low Back Pain Multidisciplinary Panel (MDP)

Through the workgroup meetings it was suggested that it would be useful to establish a Low Back Pain Multidisciplinary Panel (Canterbury Clinical Network, 2016). The panel was established and consisted of a physiotherapist, medical doctor, psychologist,

chiropractor, and osteopath. Dr. Craig was selected as the chiropractic representative on this panel. The panel is available for practitioners to send their notes to and get advice on back pain cases where practitioners encounter difficulties or the patient is slow to respond. This panel now has been marked for non-ACC low back pain cases that require further expert advice, although it is not limited to this. Advice and information on how to access this panel is detailed on the low back pain pathway on the Allied Healthways website. The Canterbury Initiative have not experienced a high user uptake of this service, reasons for this are offered in the survey results of study after the narration.

“But the idea was all the difficult cases that GPs in particular, in fact allied health as well, because it is in Allied Healthways, referral option, because not all are referring from GP practices, not all, but most, can send information there. XXX coordinates the opinions of the group and sends back advice. It is a very useful resource when you are at a dead-end. But unfortunately, the health care system cannot respond to it” (Code 12, Interview, p.).

The chiropractic profession is an example of how this resource has not been utilised as it was intended.

“There is only one chiropractor that has ever referred and is open to referring with that MDP panel, and out of everyone that comes to it, out of all the GPs, physios don't refer, one chiropractor referred a difficult patient and for that I have enormous respect for. But we could be promoting it to the chiropractors, if ever you have a difficult patient, you have this MDP panel, they can help you, they can help that patient go further, go to the Burwood Pain Clinic, or get some other people to look at

it. Only one chiropractor has ever taken that up out of those 20 approx cases we have looked at” (Code 2, Interview, p.16).

Canterbury chiropractors knowledge of the Low Back Pain Multidisciplinary Panel (MDP)

In this study’s survey it was investigated why the involvement was so low with the Low Back Pain Multidisciplinary Panel (MDP). Through a series of questions, we explored how much the chiropractors in Canterbury had been educated about the Canterbury Initiative and the Back-Pain Package/Programme and the role they could play in it. From the data shown in Tables 4-8 it is clear that the majority did not feel they had been sufficiently educated about the Canterbury Initiative and the Back-Pain Package/Programme. When examining the results of this study’s survey there are reasons why this may be the case. Survey participants were asked the following questions:

Table 4: Q16: Low Back Pain Multi-Disciplinary Panel: knowledge of who is on the panel

Yes	No	Don’t Know	No Response
5	14	6	4

Table 5: Q16: Low Back Pain Multi-Disciplinary Panel: knowledge of what it is used for

Yes	No	Don’t Know	No Response
9	12	4	4

Table 6: Q16: Low Back Pain Multi-Disciplinary Panel: knowledge of when you refer to this panel

Yes	No	Don't Know	No Response
7	14	4	4

Table 7: Q16: Low Back Pain Multi-Disciplinary Panel: knowledge of where you find information about this panel

Yes	No	Don't Know	No Response
3	14	8	4

Table 8: Q16: Low Back Pain Multi-Disciplinary Panel: knowledge of why using this panel is important in appropriate referral management within the CDHB

Yes	No	Don't Know	No Response
5	14	6	4

The tables suggest that a significant portion of chiropractors had not been sufficiently briefed on the role and function of the Low Back Pain Multidisciplinary panel and the relevance that had to their clinical practice. It remains to be seen if they did have the acquired knowledge of this panel whether that would improve uptake of the resource.

The development and launch of Allied Healthways

Throughout this time period work was underway to develop Allied Healthways, which was part of the pathways family such as Community HealthPathways for primary care teams, Hospital HealthPathways for resident medical officers, and HealthInfo for patients. Allied Healthways was similar to the other websites however it was focused for the allied health disciplines specifically to improve patient care. It was to go live mid-

September 2017 with the low back pain pathway and plantar heel pain pathway, amongst others. Further pathways were signaled to be developed in accordance with the Canterbury Initiative model. A similar format to the workgroups would follow. People would get together to troubleshoot issues and come to an agreement on the formation of a pathway. Some pathways would be discipline specific and others, such as falls prevention would have a multidisciplinary focus (Canterbury Initiative, 2017).

Allied Healthways provided a mechanism to display how different conditions were assessed and managed. It is a clinical guidance tool, supporting practitioners in appropriate referral management to other disciplines, such as general practice, medical specialists, or other allied health disciplines. It provides an opportunity to build networks and join up the various professions operating within the Canterbury health care system. It was designed to bring attention to the role the allied health disciplines play and can contribute in the health care sector by encouraging GPs and other health professionals to more readily refer cases across the sector. This is in alignment with the overall transformational vision of the Canterbury health care system, to become an integrated health care system. The development of Allied Healthways was seen to be positive and the chiropractic profession was a part of that (Canterbury Initiative, 2017). A testimonial by chiropractors was included in their progress report document,

“On behalf of XXX and I, we have enjoyed the experience. I think starting off concentrating on what we have in common and having a common purpose to reach the GPs really bonded us as a group. I find it inspiring that we as dogs, cats, and mice have

worked so constructively together. I just wish that all of our colleagues could have had the same experience” chiropractor, Dr. Crellin (Canterbury Initiative, 2017.)

Chiropractic informal liaison role shifted to formal individual contract

As noted earlier, Dr. Crellin was operating on a voluntary basis with the liaison work he was conducting with the Canterbury Initiative although for any meetings he attended with the Canterbury Initiative he and others did receive remuneration. There was no formal induction training for this role but he was debriefed of the Back-Pain Package/Programme and could telephone personnel of the Canterbury Initiative if he required further support. There was a need to continue this liaison work. He raised concerns with people in the Canterbury Initiative and Streamliners (technical writing company for HealthPathways who knew of Dr. Crellin). On 16 February 2018 he asked the Canterbury Initiative Allied Health Team Leader why other professions such as physiotherapy, occupational therapy, speech language therapy, and dieticians, have paid liaison roles and the chiropractic role is voluntary (Crellin, 16 February, 2018, telephone call and e-mail confirmation of call.)

It was reported back to Dr. Crellin that this non-payment was an oversight and as a consequence the leadership of the Canterbury Initiative agreed there should be a formal liaison contract for the chiropractic profession. The position was advertised through the Canterbury Initiative and Allied Healthways. The contract was for 45 hours per annum for “a chiropractor to work as a Liaison providing communication and facilitation between general practice and allied health services across the Canterbury health system” (Fink, 21 March, 2018 Canterbury Initiative, Allied Healthways, e-mail communication). There were

three attributes that were required to fulfill this role: “be self- motivated and energetic, demonstrate leadership within their profession, have strong communication and relational skills and have a desire to make the Canterbury health system even better” (Fink, 21 March, 2018, Canterbury Initiative, Allied Healthways, e-mail communication). Dr. Crellin was one of a number of chiropractors, who applied for the position, and Dr. Brents, a local chiropractor, was hired under a formal contract with the Canterbury Initiative and CDHB.

Canterbury Initiative Allied Health Team Chiropractic Liaison role

On the 3rd of October, 2018, the Canterbury chiropractors were officially notified by e-mail of the appointment of Dr. Brents to the formal liaison role. For many this would have been the first time they would have heard of the Back- Pain Package/Programme (Brents, K. 3rd October 2018, personal e-mail communication). This was because previously the NZCA regional database had been used. But Dr. Brents started her role by forming a database of all the chiropractors in Canterbury, including non-members and members of the NZCA. The difference in contact lists/databases will be discussed later. Thereafter Dr. Brents encouraged chiropractors in Canterbury to register with the ERMS. An e-mail invitation was sent requesting all chiropractors working in the region of the CDHB to attend a meeting. It was scheduled to discuss important opportunities that the Canterbury Initiative were promoting in the region (Brents, K. 3rd October 2018, Personal e-mail communication).

The meeting took place on 16th October 2018, at the Halswell Health at Longhurst Health Christchurch. Attendance was fairly low at this meeting, 63 chiropractors were invited via e-mail, 24 registered to come, and 17 were in attendance. Information was

provided about the ERMS database and future opportunities for signing up to the ERMS Online, which was different to the ERMS program. The ERMS Online was a new development for allied health disciplines to be able to refer within the inter-disciplinary team. This was reported by Dr. Brents to be undergoing beta testing ready for its launch in the 2019 New Year. The researcher of this study was at that meeting in her capacity as a chiropractic practitioner.

Information was provided on how to register with Allied Healthways, although no formal education as such was provided on how to use the resource. Chiropractors were encouraged to place feedback on the clinical pathways, through the feedback mechanism on the Allied Healthways website, or by contacting the liaison directly. Brief mention was made of the Low Back Pain Multi-disciplinary Panel (MDP) (Brents, K, 3rd October, 2018, personal e-mail communication).

After the meeting the minutes were e-mailed both to attendees and to those who had not attended to make sure that all would have access to the material. Apart from the information above, it also included future work Dr. Brents was going to be doing, such as enquiring with the NZCB, about a *common persons identification number*, which was needed to enable practitioners to be able to sign up to the ERMS Online (Brents, K, 17th October, 2018, personal e-mail communication). Dr. Brents advised by e-mail that there would be monthly newsletters with information and updates occurring within the Canterbury Initiative (Brents, K, 17th October, 2018 personal e-mail communication). This never happened.

A follow up e-mail was sent on March 6th 2019 stating that 12/67 chiropractors had signed up to the ERMS. It was also advised that there had been budgetary cuts within the CDHB, and therefore Dr. Brents contract had changed with the Canterbury Initiative. Dr. Brents had to make a choice between working in a Project Facilitator role or Clinical Editor role for Allied Healthways under the Canterbury Initiative. She decided on balance that working under the Clinical Editor role would provide better exposure for chiropractic getting recognition onto further pathways. The role of the Clinical Editor is to develop and write pathways for Allied Healthways. She advised she would still be available to provide support to anyone signing up to the ERMS; however, would not be working directly on it (Brents, K. 6th March 2019, personal e-mail communication). As Dr. Brents explains,

The Canterbury Initiative – this is the committee of the DHB that I am contracted with. Originally I was hired to act as the liaison between the area chiropractors and the DHB (letting everyone know about Allied HealthPathways, upcoming seminars, ERMS etc. and doing the occasional consulting on pathways and projects). In December, the [C]DHB decided to restructure how the committee ran. The emphasis has now changed to more of the consulting on pathways and projects and less on the liaison roles. So what does this mean? For all of you... there will not be much change” (Brents, K. 6th March 2019, personal e-mail communication).

When asking survey participants if they had a knowledge of the Canterbury Initiative Allied Health Team they provided the following responses.

Table 9: Q8: Canterbury Initiative, Allied Health Team: knowledge of: who the Canterbury Initiative Allied Health Team are

Yes	No	Don't Know	No Response
12	11	2	4

Table 10: Q8: Canterbury Initiative Allied Health Team: knowledge of what their role is

Yes	No	Don't Know	No Response
12	10	3	4

Table 11: Q8: Canterbury Initiative Allied Health Team: knowledge of what is the role of the Canterbury Initiative Allied Health Team Chiropractic Liaison

Yes	No	Don't Know	No response
13	10	2	4

Table 12: Q8: Canterbury Initiative Allied Health Team: knowledge of what is the role of a Clinical Editor

Yes	No	Don't Know	No Response
6	15	4	4

Table 13: Q8: Canterbury Initiative Allied Health Team: knowledge of what is the role of the Project Facilitator

Yes	No	Don't Know	No Response
4	16	5	4

The information from these tables demonstrates that many chiropractors did not have a knowledge of the role and function of the Canterbury Initiative Allied Health Team.

For chiropractors that wish to contribute to the health care sector in Canterbury to have knowledge of these roles may be useful so they can apply for any relevant positions.

On the 14th March 2018 Allied Healthways provided an education session on using their resource but this was for CDHB employees only. Although not a CDHB employee the researcher was able to still attend, but this was in the capacity as a chiropractor prior to starting the research project (The Canterbury Initiative, 2019). Further requests for education were made by the attendee above. In an e-mail in 17th April 2018 Dr. Brents informed chiropractors in Canterbury that she would be looking into running an education session for all allied health disciplines on Allied Healthways and how to use it for non CDHB personnel. This, however, never came to fruition due to funding issues (Brents, K, 17th April, 2018, personal e-mail communication).

The Low Back Pain Multi-Disciplinary Panel chiropractic representative made requests for education and resources to be distributed about the panel; however, this also did not transpire.

During the time Dr. Brents held the liaison role there were two other meetings in November 2018 and June 2019 at café/bar venues not specified for chiropractors to build collegiality and gain an understanding of the benefits of joining the Canterbury Initiative. A poor turnout resulted for both. For the first one 63 were invited via e-mail, seven registered to come and four attended. The second meeting 67 were invited via e-mail, one registered to come and five attended.

The NZCA held their national conference on integrative medicine in Christchurch, May 2019. It was only through enquiry that Dr. Brents was eventually asked to speak on

the NZCA conference integrative medicine panel. This provided a mechanism for chiropractors to enquire further about what was occurring within the CDHB, sign up to the ERMS, and discuss the implications for chiropractors (Short, K. 26 March 2019, personal e-mail communication, Brents, K. 17th April, 2019, personal e-mail communication).

Overall Dr. Brents struggled with chiropractors lack of uptake to the Canterbury Initiative.

The Dissolution of the Canterbury Initiative Allied Health Team Chiropractic Liaison Contract

On 3rd of December 2019 chiropractors in Canterbury received an e-mail informing them that the Canterbury Initiative Allied Health Team Chiropractic Liaison contract was not going to be renewed with the Canterbury Initiative and CDHB. There appeared to be a number of reasons, including budgetary cuts in the CDHB (Brents, K. 3rd December, 2019, personal e-mail communication). It is publicly known that the CDHB is in a financial deficit (Lewis, 2018). This is not just a regional issue and places restrictions on how funding is allocated. A health care representative voiced this,

“we have public health and I think it’s a matter of who is in and who is not in [...] we have a model, because if you start to look at the therapies that are included in a DHB system, that is the model that is currently in place, now whether that is the model going forward, that is up for debate as we carry on, but the current state is, that is what the model is [...] and that is what is currently funded for, and so then we have the situation where every DHB, bar about two, you know ran at deficit last year”

(Code 7, Interview, p.3).

It was also advised that the osteopath liaison contract had not been renewed some months previous. The focus for 2020 was to have only professions that are affiliated with

the CDHB in liaison roles. There was a concern raised in the communication, that the liaison did not know how this would affect the chiropractic profession's representation onto the clinical pathways. Dr. Brents commented, "*I suspect my pushing for chiropractic to have greater appearance on the pathways is part of the reason my contract has not been renewed*" (Brents, K. 3rd December, 2019, personal e-mail communication).

On 10 March 2020 in Allied Healthways, the chiropractic profession was registered in an update for the Torticollis in Infants clinical pathway; however, this was a pathway that was worked on during the Canterbury Initiative Allied Health Team Chiropractic Liaison's role (Allied Healthways, 2020c.). If a liaison is not working within the team, chiropractors would have to raise issues retrospectively, using the feedback option on the clinical pathway to get chiropractic's contribution recognised. The clinical pathways are reviewed on a three-yearly basis. For this reason it may be that the concern Dr. Brents raised with chiropractors in Canterbury that her contract had been dissolved for pushing to have chiropractic recognised on the pathways was valid.

Another source provided a differing perspective as to why the contract was not renewed. This comment was that the CDHB is committed to promoting the benefits of a wide range of allied health providers, including chiropractic, for the benefit of patients and systems improvement; that all previous input that the chiropractic liaisons and associated colleagues have contributed is valued and appreciated, and that those benefits will be felt by patients, clinicians, and the wider health system. But due to budgetary pressures the Canterbury Initiative had to consider new models of engagement rather than standing representation, such as engaging people on a project by project basis. Although this may be

positive, it is yet to remain whether this is in fact the case for the chiropractic profession (Code, 10, Interview).

Barriers

Four possible scenarios/barriers are clear to explain why the chiropractic participation is so low in this particular situation. The first consideration might be that there were barriers to chiropractics' involvement that almost ensured a low rate of participation, including external forces, not within the control of the profession. Extensive reports historically have been recorded to illustrate this form of exclusion the chiropractic profession has unduly suffered. In the New Zealand context, it was a result of opposition from the medical and physiotherapy profession with the Royal Commission of Inquiry 1979 (Inglis, 1979). On an international basis the opposition to chiropractic from the medical profession was documented as a conspiracy in the United States Courts, to restrict competition, in the Wilk et al. vs American Medical Association lawsuit which ran from 1976 to 1990 (Green & Johnson, 2019). Second, as a result of this past attack individual factors could be playing a part. A choice to *self-exclude* may be considered the safer option, in fear that further attack may result. There may be a reluctance to engage in a process that could result in further rejection. Pavlovian conditioning has served as one of the foremost experimental and theoretical models for how humans understand fear (Dunsmoor, 2015). Dunsmoor (2015) notes that there is a limitation to these laboratory based studies in relation to how humans generalise fear. Dunsmoor (2015) proposes that humans use higher cortical processes in how they generalise fear in real world settings, and may be something that is occurring for chiropractors with the perceived fear in this situation. That is, generalising that the past attack is relevant to the present invitation to join the Back Pain Package/Programme.

(Dunsmoor, J. & Murphy, G., 2015). The withdrawal of chiropractors may have become an ingrained behaviour and belief system not serving the profession in the Back Pain Package/Programme context. Third, there could be organisational factors within the Canterbury Initiative, CDHB, NZCB, and NZCA preventing chiropractors from gaining access to IT infrastructure and other educational support. Fourth, individual practitioner issues relative to operations within their private practices could be playing a part.

It is useful to uncover the barriers relevant to this situation because it may provide insights to policy developers in a broader context. As a health care representative illustrates,

“Let’s identify the barriers first, [...] this will have relevance to more than just chiropractic because this is the same pattern that is mirrored through like other professions, limited resources, and most of us (AHANZ) are community-based private health care” (Code 3, Interview, p.15).

The themes from the data that emerged from this study that acted as barriers to chiropractors participating in the Back Pain Package/Programme and sign up to the ERMS were: recruitment issues, communication and IT infrastructure issues, blocks in the past from joining CDHB programmes, dysfunction in relationships with GPs, private practice business model, different philosophical paradigms, psychological and behavioural factors, educational factors, and legal considerations. Facilitators and enablers were: submitting chiropractic evidence based literature on the Allied Healthways feedback option and the provision of a list of aides that would enable chiropractors to sign up to the ERMS and utilise Allied Healthways.

The themes are further categorised below:

Recruitment:

- Unclear records as to how many chiropractors have signed up to the ERMS
- Database Formation
- ERMS Online Sign Up

Communication and IT infrastructure issues:

- Registration requirements for the ERMS Online
- Mis-Information regarding fax and practice management requirement

Blocked in the past from joining CDHB programmes:

- Blocked from being able to sign up to programmes in the past
- Lack of engagement

Dysfunction in relationships with GPs

Private Practice Business Model

Different Philosophical Paradigms

Psychological and Behavioural Factors

- Old belief system – ostracism and marginalisation
- Living in a bubble – Self exclusionist and isolationist

Legal considerations

Educational factors.

Recruitment

Unclear records as to how many chiropractors have signed up to the ERMS

It is difficult to ascertain the precise number of chiropractors in Canterbury that have signed up to the ERMS resource. What is known is the first chiropractic liaison (Dr. Crellin) had approximately ten practices that he provided to the ERMS team, and some were multi practitioner practices. Some chiropractors may have contacted the ERMS team on an individual basis. The second chiropractic liaison (Dr. Brents) signed up twelve out of sixty seven (18%), again some could have been multi practitioner practices. This quoted figure remained unchanged throughout the duration of the study. It is not known if the chiropractors Dr. Brents signed up are the same as the chiropractors Dr. Crellin signed up. Of the survey sample for this study, 28% had signed up to the ERMS, 59% had not registered, and interestingly 14% recorded they did not know about the ERMS.

A request was made of Pegasus Research, Audit, and Evaluation, which is a division of Pegasus Health, for the total of each profession, (chiropractors, osteopaths, and physiotherapists) that had signed up to the ERMS to draw comparisons. However, a response was not received. The ERMS team was contacted directly and asked if they could provide any information but no data was provided. When distributing the survey and liaising with the NZCA, the researcher cross referenced the Canterbury Initiative Allied Health Team Chiropractic Liaison's database with the NZCA's database and here it was found that there were 69 known chiropractors practising within the CDHB. Of those, 40 (58%) were NZCA members. This is below their national voluntary membership average of 66% (NZCA, 2018). At the time of this study's survey distribution, the NZCA database

was not up to date, which means that if information had been distributed nationally about the Back Pain Package/Programme, then not all members would have received it. As a result of survey distribution the NZCA regional group database for Canterbury was updated.

In comparison to the osteopathy profession, the sign up to the ERMS by chiropractic appears to be comparable. It is estimated that there are 45 osteopaths in the CDHB. One osteopath remarked,

“I can possibly say I know of a, talk about, a handful that have, (Code 9, Interview, p.2) [...] I wouldn’t put it anymore than 20, there would definitely be at the lower end of the schedule” (Code 9, Interview, p.7).

On a different note, but not that dissimilar, user uptake of Canterbury Initiative resources such as the HealthPathways has been a problem across various disciplines. One representative expressed this,

“another thing to keep in mind, getting people to use the pathways is not just an allied health thing, they have problems getting the GPs to use them as well, [...] the only place they use it consistently is the hospital, because they are forced to because of the way that their systems are, [...] but anything that is not under the DHBs control um has seen the same issues” (Code 5, Interview, p.23).

Survey participants reported a poor user uptake of Allied Healthways and Community HealthPathways in their clinical practice. Of the participants, four used the resource, 22 did not use it, and four did not respond.

What can be drawn from this is that there are broader systems' factors occurring here that are not just specific to the chiropractic profession and these are contributing to participatory issues.

Database Formation

Problems clearly occurred in recruitment of chiropractors for the Canterbury Initiative, Back Pain Package/Programme, Canterbury Initiative Allied Health Team, and ERMS registration. To recruit chiropractors an accurate database was required to be able to communicate and register with these different groups. The NZCB was contacted by the liaison person to source information about the chiropractors; however, the liaison person faced difficulties with the NZCB database and was directed to the NZCA database but this had its own issues because not all chiropractors were NZCA members.

“I kind of put in an objection to that, saying not all people are members of the Association” (Code 10, Interview, p.12).

The survey results also demonstrate that 28% of the participants, were not members of the NZCA.

Table 14: Q17: Of survey participants 59% were members of the NZCA

Yes	No	Don't Know	No Response
17	8	0	4

The NZCB did develop a new database in 2014. A practitioner's name, work address, and work telephone numbers were only required to be on the Public Register. If a chiropractor had an

objection to this, they could raise their concern in writing to the NZCB (NZCB, 26 November, 2014, personal e-mail communication). The issue that the chiropractic liaison people faced when working for the Canterbury Initiative was that the database was not categorised into regions or DHBs. The database, therefore, did not provide a complete list of chiropractors working in the CDHB zone.

“about a year ago I spent many many many hours trying to compile a list and even my list is no longer up to date because as new chiropractors move into the area, to begin practice, I don’t have that information. [...] The participant noted that there was no support from the CDHB, they were like oh just search the Register [...] and I was like how do I do that, because if I put in Christchurch, not everyone comes up, so for instance if I put in Christchurch I didn’t come up because I am in XXX suburb”
(Code 5, Interview, p.2).

This lack of a complete database of practitioners has clinical implications when working within the Canterbury health care system.

“If you go on the low back pain page now, it will give you that link to the Board, but that link will go nowhere because there are no addresses or practice details, so I think the Board needs to update their website, [...] because if a GP wants to send a patient to a chiropractor, they look on the ERMS, no-one in the area is around, and then they go alternative site, which is kind of leading to them (NZCB), if the addresses were there they could actually look up and say there is chiropractor in XX suburb”. (Code 10, Interview, p.13 & 14).

In 2008 the NZCB reportedly disseminated a *National Directory of Chiropractors and Chiropractic Services* booklet when posting out practitioners annual practising certificates. This directory had addresses and e-mail addresses of all chiropractors in New Zealand, which was further broken down into regions and suburbs within regions. The slogan on the cover was “Supporting chiropractors and chiropractic offices meet the community’s health needs”. It was formulated for the chiropractic profession, other health professionals, health and education administrators, current and future chiropractic patients, and anyone seeking specific chiropractic services (Pritchard, 2008).

ERMS Online sign up

To be clear the ERMS and ERMS Online are two different programs. The sign up to the ERMS Online is currently zero (as at 16th January 2020). In December 2019 a newsletter was posted in Allied Healthways encouraging allied health disciplines to sign up to the ERMS Online. Whilst it said that ERMS Online was being used by dentists, optometrists, physiotherapists, occupational therapists, and dieticians, the ERMS Online team were actively including other allied health disciplines (HealthPathways, 2020). When a chiropractic practitioner (the researcher acting in their capacity as a chiropractic practitioner) contacted the ERMS team, as suggested in the newsletter, the chiropractor was informed on 16th January 2020 that the chiropractic profession would be considered in future months. The ERMS Online team were in January 2020 signing on Mana Ake and public health nurses. They advised (on 16th January 2020) that in future months they would distribute the information to the chiropractors through the chiropractic liaison, although, at this particular time the Canterbury Initiative Allied Health Team Chiropractic Liaison

contract had been dissolved. There was a process that the ERMS team had to administer before signing on a new provider group. One criterion was, to first seek approval from the current professions registered, that they would accept a referral from the new group seeking to be registered. No chiropractors are currently signed up to the ERMS Online as at 16th January 2020.

As part of the survey conducted for this study chiropractors in Canterbury were asked whether they were aware that the ERMS Online was used to refer within the inter-disciplinary team (GPs and other health providers). Almost half the surveyed chiropractors (48%) said *yes*, 21% said *no*, 17% said they *didn't know*, and 14% represented the non-responders. It would seem therefore that gaps in knowledge of a portion of the chiropractors do exist about the ERMS Online.

Communication and IT infrastructure issues

Registration requirements for the ERMS Online

When the Allied Health Team Chiropractic liaison first started in the role, the beta testing was underway for the ERMS Online before its official launch. One of the requirements was for professions to have a Health Provider Index (HPI), formerly known as the Health Practitioner Index. The HPI is a national database storing data to identify health providers. The HPI has three separate indexes: the index that is relevant in this context is the CPN (Common Persons Number). This is issued to practitioners on an individual basis who provide health services. The format for the CPN is CPN NNXXXXX where N is numeric and X is alphabetic. Historically health care organisations have maintained their own indexes of providers, which subsequently has caused widespread duplication of identifiers. There are multiple benefits to having a national

index, such as the HPI either and these benefits can be found listed on the Ministry of Health website. One benefit of the HPI that specifically relates to chiropractors' participation in the Back Pain Package/Programme, is the ability to identify sector participants when communicating electronically with sector agencies. To be able to obtain an HPI and CPN you have to be registered with a statutory agency. As at the 29th May 2019 there are 11 professions that have the HPI, including physiotherapy and occupational therapy. Despite chiropractic having a Scope of Practice under the HPCA Act (2003), chiropractic does not have an HPI (MoH, 2019). The NZCB are aware of the HPI. A Ministry of Health representative shared, *"the Chiropractic Board would have been included in discussions around 2006-2008 when the HPI was being set up and they were present (I believe) at the meeting where the HPI was discussed back in 2017-8"* (MoH, 2019, e-mail, personal communication). This suggests this is not new information to the NZCB and they have known about it for a few years now.

It should be noted that work is underway at the Ministry of Health to be able to include self-regulated professions such as complementary and alternative medicine disciplines (Ministry of Health, 2019). A Ministry of Health representative said,

"Our HPI upgrade project is to update the underlying software, change platforms, improve accessibility - through APIs [application programming interface] and to widen the scope - i.e. to allow for introduction of non HPCA registered practitioners. In this project we are working closely with the South Island Alliance so they have a vested interest in getting groups on to use their systems - like ERMS" (MoH, 2019, e-mail, personal communication).

As reported by an interviewee, the CDHB has been working with the ERMS, looking into whether the HPI/CPN is a requirement due to the number of professions who do not have one. As a health care representative highlighted,

“so those blocks, one is at the board level (NZCB), of getting that CPN, and the other is at the level of ERMS Online, and why exactly we need that number, so I know that the health board [CDHB] is working with them, to actually get rid of that requirement, because we are not the only profession who is having this issue” (Code 5, Interview, p.4).

The Ministry of Health is responsible for the administrative functions of the HPI such as storage of information. However, “Practitioner data is obtained from trusted data sources, which are the Responsible authorities in the Health Practitioner Competence Assurance Act 2003”, for example, the NZCB for Chiropractic Practitioners (MoH, 2019). The NZCB has not handed this information over to the Ministry of Health. Information was sought by the researcher on what information needed to be supplied, and what the approximate relevant costs were to undertake this exercise (as discussed soon).

It is not possible to sign up on an individual basis, although there has been a one-off instance, where this has known to have occurred for an Acupuncturist. It is also unrealistic to sign up a group, such as chiropractors practising in the CDHB, because it is more cost effective to collate all information on a national basis. The information that is currently required, as at 30th September 2019, by the Ministry of Health from the regulatory authorities is: a structured .xml file with data, including practitioner name, date of birth, address (optional), registration data

(including number, initial registration date, current practising certificate dates), scope of practice (coded), conditions on practice (if any), and qualifications.

The financial outlay in developing the extract would depend on the type of registration system used and the type of support agreements a regional authority has. If the NZCB use the same or a similar system to another Regional Authority, and it is supported by the same team, then costs to a Regional Authority (NZCB) may be below NZD5,000, but if not then it could be NZD10,000 or more (MoH, 2019, e-mail, personal communication).

The costs seem small relative to the long-term gains that the chiropractic profession might achieve from having an HPI/CPN. Also, under the new regulations of the Health Practitioner Competence Amendment Act 2019, a question could be raised as to whether it is now a requirement for the profession to have the HPI/CPN.

No information can be located to confirm that there has been consultation with stakeholders of the chiropractic profession to provide information and gain an opinion on registering chiropractic practitioners for the HPI/CPN. It can be concluded from the data below that the chiropractors surveyed are largely unaware of the relevance of this requirement for their practices.

Table 15: Q7: Demonstrating whether Canterbury chiropractors had previously been consulted on the relevance of having an HPI

Yes	No	Don't Know	No Response
5	13	11	0

However, what is known is that during her appointment as the Allied Health Team Chiropractic liaison she had raised the issue of the need for an HPI/CPN to be able to register

with the ERMS Online, both with the NZCB and NZCA. The researcher could not find evidence that any action was knowingly undertaken as a result from the NZCB. A chiropractor reported,

“it would be our professional body who would have to go to the Ministry of Health and request it, um Chiropractic Board has no interest in doing that” (Code 5, Interview, p.4).

The NZCA did make enquiries,

“essentially we were getting trapped between the board not wanting to do anything (cost I think and no appetite for it) and the Ministry of Health saying that it was the Board (NZCB) that needed to do it” (NZCA, 2019 e-mail, personal communication).

When the chiropractors in Canterbury were asked in the survey if they knew they needed an HPI/CPN to be able to register with the ERMS Online 28% of the survey participants said *yes*, 24% said *no*, 34% claimed *not to know*. This highlights the significant lack of knowledge of the HPI/CPN and its significance to clinical practice. If a chiropractor did not want to join the ERMS this would have little significance; however, in the broader context there are potential impacts to the chiropractic profession. If practitioners are not signed up, then the visibility of the profession is reduced or non-existent, enforcing its fringe stereotype. This prevents any chance of contributing to research studies that planners, funders, and policy makers may use the resource for to gather data.

The HPI/CPN was a requirement to be able to sign up to the ERMS Online, when chiropractors were asked to join the ERMS in October 2019. The requirement may have changed since. Given the HPI/CPN is a national identifier for the health sector, it may be a necessity to be

able to sign up to other similar databases, in other sector agencies nationwide. The NZCB holds the authority for chiropractors to be able to access these data bases if they had the identification. They have not yet done so for the New Zealand chiropractic profession.

Mis-information regarding fax and practice management requirements

Being part of ERMS would have given the profession access to Healthlink which is Australasia's largest IT network. Healthlink connects more than 15,000 medical organisations across Australia and New Zealand with exchanges of over 100 million clinical messages annually (Healthlink, 2019).

The Healthlink messaging system can be used to send information to and from GPs, laboratories, radiologists, other medical specialists, allied health providers, and hospitals. It is a simple and consistent message exchange across the health care sector. It is used predominantly for the exchange of pathology and radiology reports, as well as referrals, status reports, and discharge summaries. It is an electronic messaging system that is designed to replace paper, telephone and fax (Healthlink, 2020).

If a provider does not have a practice management system or has one that is compatible with Healthlink, then a MyHealthlink Online Portal can be applied for. MyHealthlink (the Healthlink Online Portal) allows a practitioner to complete and receive electronic referrals from a standard browser. Once registered with Healthlink, and practitioners have access to their Healthlink Online Portal, referrals can be sent and received. Practitioners can login onto their MyHealthlink account to view any new messages/referrals or alternatively an e-mail notification is sent to their e-mail inbox notifying them to check their MyHealthlink account (Healthlink,

2020). Referrals can be sent from this account but there may be limitations to the data rich content that can be exchanged in this forum (Healthlink, 2016).

This was available to chiropractic practitioners at the time they were notified of ERMS registration. This is known because one chiropractor did sign up to the ERMS and was given access to the Healthlink service but at the first meeting the Canterbury Initiative Allied Health Team Chiropractic Liaison held in October 2018, chiropractors were informed of two sets of criteria to be able to sign up to the ERMS. The MyHealthlink Online Portal account was mentioned but was reported not to be available until March 2019 because it was under-going testing. Because of this, chiropractors were told if they had a compatible practice management system such as Gensolve or Clinko, they could apply to get a unique identifier called an Electronic Data Interchange (EDI) with Healthlink (Healthlink, 2020). This would allow them to make referrals electronically with practitioners from other disciplines within the region, using their practice management system. It was also known that the chiropractic specific software is incompatible with Healthlink. Practitioners have tried to link up their chiropractic specific software to Healthlink and have been largely unsuccessful.

“We don’t have an effective way to be able to communicate with GPs. There’s the ERMS via Healthlink, and there’s access to our computer systems, access to GPs computer systems.[...] There a couple of problems; it’s run by a monopoly and the monopoly isn’t ready to allow access, [...] there’s a barrier there [...] the barrier of chiro’s not been able to have that programme, that’s barrier number one” (Code 6, Interview, p.1).

The other method offered was to either use fax mail or e-fax. E-fax reportedly cost around NZD25 per month. The requirement to use fax mail or e-fax caused a significant barrier to participation. Just over half of the survey participants (52%) did not use fax in their clinics. When asked if approximately NZD25 per month were too expensive to purchase an e-fax to be able to join the ERMS, 52% said *no*, 24% said *yes* and 24% said they *didn't know*. A participant shared their experience below.

“I'm pretty much as busy as I need or want to be currently, and while I would like to help facilitate better management of LBP[Low Back Pain], if I see enough referrals to make the \$25/month spend on an online fax system, or putting in a phone line to run an actual fax from (and, again, HELLO PEOPLE this is 2019, there are increasingly businesses such as my own, who simply don't even have a landline at all) then I'll be more busy, and that's not really something I'm interested in. Well, firstly, I can't "join" because I've tried!! They don't want chiros to have access, basically the option (unless you run Houston or one of the other medical PMS (practice management system) options) then you need a fax number, and HELLO PEOPLE this is 2019, ain't nobody outside of medical practices and related entities have fax machines. If I want to, I can use an online fax service, for ~\$25/month..... Which ain't actually "joining" the ERMs really, is it...” (Survey participant, open ended question).

Other responses included, *“I think faxes and e-faxes are archaic”* (Survey participant, open ended question) and *“We don't have a fax machine which we thought we needed”* (Survey participant, open ended question).

What is known from the data is, that a fax or e-fax was not required to sign up to the ERMS; however, it was a tool that could be used. The Canterbury Initiative Allied Health Team Chiropractic Liaison did inform the chiropractic profession that the Healthlink Online Portal account was being developed and might become available (Brents, K. 17th October, 2018, personal e-mail communication). No further updates were provided to inform practitioners it was in fact available. Survey participants were asked if they had a MyHealthlink Online Portal account and 28% said *they did*, 41% said *they did not*, 28% *didn't know* and 3% were non-responders. Although many practitioners may have practice management systems, some compatible with ERMS and some not, this does not prevent them from accessing the MyHealthLink Online Portal Account. Survey participants were asked their knowledge in the following area

Table 16: I have been educated about the use of the ERMS and my expectations within the referral process in the following areas: - That I need either a fax machine, e fax or Healthlink portal account to join

Yes	No	Don't Know	No Response
13	10	2	4

Blocked in past from joining CDHB programmes

Blocked from signing up to ERMs in the past

Several participants voiced they had attempted to sign up to the Canterbury health care system in the past but were blocked.

"It's really a bit of a conundrum, I would like to help, I would be happy to help, but I don't

**need* to help, and it doesn't really feel like my help is needed or wanted, given the*

conversations I had trying to get the practice I worked at previously (who do run one of the ridiculously expensive PMSs) signed up, and the uphill (and ultimately unsuccessful) battle that was, why should I be interested” (Survey participant, open ended question).

Other responses included, *“If I have tried to sign up in the past, I have not been accepted* (Survey participant, open ended question) and *“I have attempted to find out more and join but I am yet to receive any correspondence from the South Canterbury DHB, which I’m situated in. Communication seems very poor”* (Survey participant, open ended question).

What can be concluded from this is many chiropractors have made attempts to participate in the Canterbury health care system in the past but have not been successful in doing so.

Lack of engagement

An issue that is not just specific to the Canterbury Initiative Back Pain Package, is chiropractic practitioners not responding to communication efforts. This includes not opening e-mails, not turning up to meetings, and not attending conferences that are held in their region. One organisation representative reported,

“It is hard to get chiropractors to uptake or open anything, for some reason, we do have an issue with that. So, you only really count on about 50% of the profession reading their e-mails. So, um like I said we need to address it somehow about how that happens” (Code 1, Interview, p.3).

To provide insight, practitioners voiced they found e-mail an inappropriate use of information dissemination, and that information can easily get lost. Some saying they found it hard to wade through long e-mails and make sense of material. This may have caused an apathy

or inertia about trying to participate in the ERMS registration process. Or confusing this situation with the past and therefore not investing their time in trying again. Apathy was a theme that emerged out of the interviews and could be a contributing factor to a lack of engagement.

Dysfunction in relationships with GPs

Another theme that emerged was a feeling of hostility in the relationship chiropractors have with GPs. The comments from participants suggested that chiropractors believe that a GP would be unlikely to refer to a chiropractor, that the GP may be biased towards physiotherapy, osteopathy, or acupuncture in preference to a chiropractor. This provided another reason for reluctance to sign up to ERMS and engage with the Back Pain Package/Programme. One chiropractor cited

“It will be a waste of time because GP's don't usually refer to chiropractors. In fact, I have patients telling me that their GP says not to go to a chiropractor, including one whose GP refused to write a letter excusing her from work, because she was coming to me for treatment” (Survey participant, open ended question).

Other reasons included hearing from colleagues that the ERMS was ineffective so there was little point signing up.

“I rang up a couple of colleagues over the last couple of days who are signed to ERMS [...] and they said they have got a zero response, in two years, so it's just not been used, [...] so, for some people they won't even bother because [...] it's not effective at the moment” (Code 10, Interview, p.1 & 2.).

Other reasons included not wanting to be controlled by the medical system, or feeling if they did join, they would lose their autonomy in the process. Although this is one side of the problem, there were other participants that voiced they had a good relationship with GPs in the region and that this was not a barrier; these were practitioners who worked in multi-disciplinary clinic environments.

Private practice business model

One of the dominant themes derived from this study was the barrier of the private practice business model. In the New Zealand context chiropractors work under a community based private practice business model. This is true for most community allied health disciplines. The only state funding a chiropractor receives is from ACC. This is a subsidy to cover part of the fee for service charges for either accident or injury. If a client is not covered by ACC in the majority of cases the client would be required to pay full fees for chiropractic care. This has implications if receiving ERMS referrals. Patients who have lower socioeconomic means may not be able to afford the chiropractic service, and this becomes a barrier to care, and deters a GP referring a client to chiropractic services.

Working under a one team approach requires adapting to a different model for many practitioners and businesses. To make the adjustment requires additional time and resources and it may adversely impact on the businesses traditional income generating fee for service, and the contract business model they currently operate under (Primary Health Alliance, 2017). This is highlighted below by one chiropractor talking about barriers to ERMS registration,

“and that would be another barrier I think, first the IT nous to get it set up and the potential cost and thinking well, no GP is sending their patients anyway so why would I bother paying that” (Code 3, Interview, p.4).

Another health care representative describes,

“Um I guess the other issue is it, is the business model that chiropractors are in, it is very much an individual practice or a small group, practice isn’t it, [...] they are busy running their practice and trying to keep that going and trying to make a dollar at doing that, and don’t perceive they have any time to give to that bigger picture, more [...] transformational type activity going on around them, they may be interested in it, but they perceive they don’t have the ability to give it time” (Code 4, Interview, p.2).

Many participants reported their businesses at the time of surveying were at capacity, and that traditionally they did not receive GP referrals, but in fact do not require them or want them (as at time of survey). Many said, they do not work within an ACC framework, such examples include:

“Don’t want to be affiliated with ACC”, “Choose not to do ACC in practice”, “We see very few ACC patients or third party payers” (Survey participant, open ended question).

Chiropractors could not see the benefit of stepping beyond a model that was working well for them. Others reported restrictions of being a small operator and not having the right

infrastructure requirements to be able to participate in the ERMS and Back Pain

Package/Programme.

Furthermore, New Zealand chiropractors see only a small percentage of the New Zealand population, who largely would fall into the higher socioeconomic income brackets, due to the private fee for service model (NZCA, 2019, Colmar Brunton, 2019). A chiropractic cited,

“so, we are only really seeing a small portion of our population here in New Zealand [...] well traditionally we see 12% of the population” (Code 11, Interview, p.2))

This figure is validated by an NZCA research poll (NZCA, 2019, Colmar Brunton, 2019).

This is a significant barrier to care if a GP were to refer a person with lower socioeconomic means, which could then result in an inability to access care. This has implications for Māori and Pacifica peoples, whereby inequalities in access to services have already been identified to be able to work within a *Whānau Ora* model and provide the right care, in the right place, and at the right time. With the changing work force climate and requirements, there is an expectation to be reaching out and supporting communities. As one health care representative explains:

“How do we begin to have a workforce which is much more reflective of the population [...] and the challenge that I put out there, where are your Māori chiropractors? [...] Where are your Pacifica chiropractors? Why are they not in the room? [...] You can get really bold about it, is it because this has been seen as a

white man's game [...] So, its white middle class profession, that serves to white middle class, white upper class, is that what it is doing? Is it the fact that it is a private college that teaches, so does that continue to reinforce that" (Code 7, Interview, p.7).

There is a twofold issue here one whereby the health care system funding model could be preventing access to chiropractic services. But also, the internal issue within the profession whereby there is a need to address access to chiropractic services and having a workforce that reflects the community's needs. The private practice business model as it stands, in the time period of this study, is a barrier to that. One chiropractor highlights how the private practice business model may impact delivering on Whānau Ora. A health care representative shares,

"I wonder if chiropractors are falling into the trap of what most other professions have which is that they don't actually put the consumer in the middle of health care, [...] and I understand they have mortgages pay and staff to pay, they are interested in how their business model works, [...] if you truly put the consumer [...] in the middle of what you do, it might actually cost you less money, and you might actually find new and different ways of doing things" (Code 4, Interview, p.3).

Different philosophical paradigms

Chiropractors typically work outside of the traditional medical model. There are varying philosophical ideologies within the chiropractic profession. Practitioners that are more neuromusculoskeletal based may find it easier to be more akin to the Canterbury health care system. In this view, which may be shared by the other health professionals, chiropractic is a sub-specialty in back pain. But this is not how many chiropractors see themselves. They do treat back pain but

within a more holistic paradigm that is a wellness paradigm. Under this approach they not only treat back pain, but many things related to a healthy lifestyle such as weight, stress, nutrition, exercise. Within chiropractic this view is often related to a *vitalistic philosophy*. This group may see by joining the Back Pain Package, it could be a threat to their form of practice. They see it as buying into a medical perspective and not a chiropractic one. As one participant states

“[I] don’t want to be affiliated with Traditional Medical Model” (Survey participant, open ended question).

This resistance is illustrated by this chiropractor,

“So, I think that we are so used to having to defend our position, and our values, and health care system and we are also private practitioners, we are not public, so there’s that, there is limited access to care also, [...] a lot of chiropractors don’t want to be seen as back pain doctors, [...] they want to be seen as nervous system doctors, [...] I think it’s them (CDHB) understanding, yes we address back pain, but not in the way they would do it, yes we look at the area, but we look at how the whole system is functioning” (Code 1, Interview, p. 5.).

Another participant challenges this by saying;

“the chiropractic profession needs to educate other medical providers about chiropractic and how we effect neurology. We have to create a level playing field in the medical model and education is the way to achieve this. I see being part of ERM’s is a starting dialogue” (Survey Participant, open ended question).

An osteopath shares their experience of working within the Canterbury Initiative and putting their views forward.

“I think that having come as an outsider, you try not to tread on people’s toes, but because people have been there a long time and it is old school, and they have established stuff, without realising you do tend to get on the wrong side of people, they get a bit sensitive to what you put forward. [...] I think that probably happens in the majority of professions, and I think we all need to park our own personal and look at the goal, of what we are all trying to achieve and I think getting more of that sitting around the table, you know chiropractors, osteo’s and physios, OT’s etc. sitting around the table is really beneficial” (Code 9, Interview, p.10). Code 9 interviewee continues and notes the importance of *“Letting everybody talk, letting everybody be heard, and realising, this tunnel that we have had for this approach is a lot broader than we thought, and the other side of that is the more people you have, the more complex it can be, but as long we keep on the goals that we want to achieve, then it can be kept achievable, and kept simple”* (Code 9, Interview, p.10)

Although there is a wide range of diverse ideologies in the chiropractic profession, predominantly chiropractic operates under a different philosophical paradigm to the traditional medical model and subscribes to a vitalistic approach. Whilst many chiropractors do work collaboratively with the CDHB, others did not want to be affiliated with ACC or the traditional medical model. If pragmatic strategies are not addressed as to how two paradigms can communicate and work together this inevitably becomes a barrier as is evident in this case.

Psychological and behavioural factors

Old belief system – marginalisation and ostracised

One of the themes in this study was the fear on the part of chiropractors of being marginalised or ostracised for being a chiropractor. Much of this, dates back historically to the Royal Commission of Inquiry 1979 (Inglis, 1979), as well as international events. Although the Royal Commission came out strongly in favor of chiropractic, the profession was severely attacked by both medicine and physiotherapy as a form of quackery. This was also the view put forward by other influential academic commentators. Experts from overseas were brought to New Zealand to give evidence in support of this view (Inglis, 1979). It is also an attack that has been repeated often in Australia, the United States, United Kingdom and many other countries as chiropractic fights to establish its legitimacy (Simpson, 2012). As a result, a belief system has developed for chiropractors, born of fear that further attack will result toward the profession. For some chiropractors this is a reason for not wanting to participate in the mainstream medical model, or put their *head above the parapet* (Code 4, Interview, p.9) and put their views forward. A chiropractor describes this well,

“I think there is an old old belief that perhaps chiropractors are going to be marginalised, or not treated fairly, and so I think there are some belief systems around that as well. [...] That something that again came out of the Commission of Inquiry, about the medical profession perhaps not ridiculing chiropractors and valuing what they do. That is something they haven’t transcended since 1979, so factors like that are important” (Code 1, Interview, p.3).

This has had ramifications for the profession and as a result has meant they have tended to exclude themselves from opportunities. As one chiropractor voiced,

“one the difficulties for the Profession has been, that we have hidden under a rock for most of our lives” (Code 11, Interview, p.8)

Living in a bubble – self exclusion and isolationist

Due to various philosophical, social, cultural, and historical factors chiropractors have tended to exclude themselves from opportunities that may otherwise be beneficial in the progression of the profession. An example is the Endorser Provider Network and Allied Sector Standard Audit system contract established in 2005 (Health and Disability Auditing New Zealand Limited, 2020). As Short (2011) writes:

Another impediment to fuller integration within the health and disability sector for the Chiropractic profession occurred with the profession turning down the offer by ACC to contract with the Endorser Provider Network and Allied Sector Standard Audit system. Again divisions within the profession meant that some members were not comfortable with this decision being made (p.27).

This created an impediment in the profession’s future negotiations with ACC, even though much work has now been undertaken to improve relations. The Back-Pain Package/Programme could be considered another example of this. One chiropractor highlights,

“Chiropractors as a profession are not getting onboard and as a profession this is something we have been guilty of in the past, you know I have already said we do tend to live in our own little bubble” (Code 1, Interview, p.5).

The Canterbury health care system in its transformational vision for an integrated health care system has sought to move out of siloed health care delivery and place emphasis on linking services up. One of the strengths of the Canterbury health care system is the building of the relationships under the workgroup model. If chiropractors don't participate in this model and other professions come on board and contribute, then the profession risks becoming further isolated. The profession has to include themselves to be included. One health care representative talks about where the problem is in this situation,

"It's a little bit, isolationist I think, because of the history of chiropractic in New Zealand. I think sometimes they don't want to put their head above the parapet because I think they are afraid, of the great weight of the traditional health sector coming down on them. [...] I think professions in general, not just chiropractors, are too insular and too 'what's in it for me', and not really what's in it for the people I serve" (Code 4, Interview, p.9).

Legal considerations

Participants raised issues around chiropractors lacking an understanding of the statutes that govern their practice. Issues were further raised around the standards of practice and NZCB in monitoring of these. It was reported there has been a history of chiropractors not liking additional compliances in their practices, such as increased reporting and paper work. Participants raised issues around the responsibilities of having to work within the wider health care team. Other participants voiced concerns around the frequency of treatments for chiropractic care. This was due to the Keel STarT screening tool that has been recommended as part of the low back pain pathway. This is an

assessment tool for the chronicity of low back pain. It guides practitioners to seek peer review when cases are slow to respond to treatment, setting guidelines on the number of treatments before doing so. A representative shares their experience,

“I think that chiropractic has to evolve and get more professional, I am a bit aghast at some of the stuff that I hear about around the [...] table from the bad behaviour of some chiropractors. [...] But I am old and uglier enough to have been around the health care sector for a long time, and dealt with these things in the district health board sector, and so it is not peculiar to chiropractors. But it is a real difficulty when they don't seem to even understand [...] the law that frames their practice, [...] a number of them don't even understand the rules upon which they practice in New Zealand” (Code 4, Interview, p.5).

There was an overall lack of understanding of the HPCA Amendment Act 2019 which was enacted in April 2019. Here regulatory authorities are required to promote and facilitate inter-disciplinary team work and communication. In the NZCB (June, 2019) newsletter the profession was informed of the new Act and subsequent amendments; however, there was no mention of the requirement of regulatory authorities to facilitate and promote inter-disciplinary teamwork and communication in the newsletter. One participant remarked,

“This is where you would think that if the Board [NZCB] perhaps, was fulfilling its full capacity it would have been across this initiative and really encouraged those 67 members, [...] to take part because this will fulfill your professional obligations, and would be seen as a bit of professional leadership, you know across the membership

base, so yeah frustrating an opportunity there where the Board (NZCB) could have jumped in and tried to promote it to the profession” (Code 13, Interview, p.15).

Informants did raise they would like NZCB and NZCA encouragement with the Back Pain Package. One chiropractor shared,

“I don’t know if it’s the Chiropractic Board’s role but it’s the Chiropractic Association role, they should be well on this, and if they know the chiropractors in the area, they should be encouraging them to give them the information” (Code 8, Interview, p.4.).

The NZCA claimed to know very little of the Back Pain Package/Programme; however, various other sources say they were informed. The Nelson Regional Group of the NZCA placed a submission to the Nelson DHB regarding a Health Hub and cited the Canterbury Initiative Back Pain Package/Programme example. This suggests they had some knowledge of the Canterbury situation. (NZCA, personal communication, submission undated). One Chiropractor states,

“I have had hours and hours of conversation (with NZCA council) with this issue with the DHB [...] I was really keen on a massive support, I thought with their portfolio of ACC work and work with the Health Minister, I thought that a lot of that was transferable, since I am not a liaison with the DHB, I put them in touch with Bruce and Karyn [...] of which neither are association members” (Code 6, Interview, p.7)

One participant raised how chiropractors might be affected by the changes in regulations,

“potentially that could be part of the competence assessment and so whilst I don’t think the Act stipulates it in any great clarity, the background papers certainly allude to the fact that practitioners who are under the Act, need to be team focused, and delivery in a team way. [...] One of the risks I thought about was, [...] if chiropractic doesn’t evolve to be part of that wider team, then there could be risks for individuals over time. [...] Has the education of chiropractic caught up with that? Is that a topic that is being talked about at regional groups and things like that?” (Code 4, Interview, p.7).

The *Provider List Policy* under Allied Healthways and Community HealthPathways states you can join these sites and the ERMS if you hold registration under the HPCA Act (2003) (Appendix A: *Provider List Policy*). One question in the survey asked participants if they had been educated about the reasons for the inclusion of the chiropractic profession on the provider list (because chiropractic is regulated under the HPCA Act (2003)), Almost half (45%) recorded *yes*, 17% recorded *no*, 21% recorded they *didn’t know*, and 17% recorded *no response*.

Less than half of chiropractors had a knowledge of their inclusion due to their registration under the HPCA Act (2003). Knowledge deficits are evident in relation to this.

A notification in the subscriber update on HealthPathways identified another area of concern. The Director General of Health, Dr. Ashley Bloomfield, notified the health sector of updates to the Family Violence Act (2018) and the information sharing introduced by sections 65A and 66D of the Oranga Tamariki Act (1989). All health workers across all sectors need to understand what the information scheme means for them. Health workers registered under the HPCA Act (2003) must comply with both the

HPCA Act (2003), Oranga Tamariki Act (1989) and the Family Violence Act (2018) (Bloomfield, MoH, 2019). To work within a Whānau Ora framework, it is important to be abreast of these changes but the NZCB had not notified the profession of these updates. If practitioners are not updated adequately of relevant law changes, it makes it difficult for them to implement the required changes in their clinical practice, safely and effectively.

Educational factors

Participants reported a lack of awareness, knowledge, and understanding of the Back Pain Package/Programme, including information about ERMS, Allied Healthways, Community HealthPathways. Many reported they would have participated if they had knowledge that was meaningful and clinically relevant to them.

Survey participants were asked to answer the following questions as to why they had been asked to participate in the Back Pain Package/Programme.

Table 17: Q9: Canterbury Initiative Back Pain Package/Programme: chiropractors knowledge of their inclusion to avoid the Emergency Department being flooded with acute low back pain cases

Yes	No	Don't Know	No Response
17	4	4	4

Table 18: Q9: Canterbury Initiative Back Pain Package/Programme: chiropractors knowledge of their inclusion due to general medical primary health care practices being at capacity

Yes	No	Don't Know	No Response
16	6	3	4

Table 19: Q9: Canterbury Initiative Back Pain Package/Programme: chiropractors knowledge of their inclusion due to general medical primary health care practices being recommended to refer all non-urgent musculoskeletal cases to chiropractic, physio and osteopathy

Yes	No	Don't Know	No Response
15	6	4	4

Table 20: Q9: Canterbury Initiative Back Pain Package/Programme: chiropractors knowledge of their inclusion being due to - approximately 30% of patients entering general medical primary health care practices are for musculoskeletal conditions

Yes	No	Don't Know	No Response
11	7	7	4

Table 21: Q9: Canterbury Initiative Back Pain Package/Programme: chiropractors knowledge of their inclusion due to the CDHB is running at a financial deficit

Yes	No	Don't Know	No Response
12	6	7	4

Table 22: Q9: Canterbury Initiative Back Pain Package/Programme: chiropractors knowledge of their inclusion due to the CDHB trying to better allocate resources.

Yes	No	Don't Know	No Response
18	3	4	4

Table 23: Q9: Canterbury Initiative Back Pain Package/Programme: chiropractors knowledge of the Canterbury Initiative recognised how Chiropractic services could help the back pain problem.

Yes	No	Don't Know	No Response
12	5	7	5

If practitioners did have an understanding of population health and systems issues, as demonstrated in the above tables, this did not seem to influence participation by all chiropractors. Lack of knowledge in some of these areas was an issue and could have been a contributing factor to non-participation. One chiropractor explains it would not be hard to acquire the relevant knowledge

“I think it would be very easy to get more educated on that. We wouldn’t be starting from zero that is for sure, we could be starting from fifty, [...] we are not learning new concepts really it’s just learning, in a way, that is specific, in an area that is focused” (Code 8, Interview, p.5).

Further knowledge deficits of the ERMS and Allied Healthways are illustrated below in the series of relevant tables.

Table 24: Q10: ERMS use and expectations within the referral process: knowledge of it is attached to general medical practitioner’s practice management systems.

Yes	No	Don’t Know	No Response
15	6	4	4

Table 25: Q10: ERMS use and expectation within the referral process: knowledge of it enables general medical practitioners to refer out to applicable services within the primary and secondary health care sector

Yes	No	Don’t Know	No Response
17	5	3	4

Table 26: Q10: ERMS use and expectation within the referral process: knowledge of what is expected of a chiropractor if a referral is made

Yes	No	Don't Know	No Response
6	14	5	4

Table 27: Q10: ERMS use and expectation within the referral process: knowledge of what inter-professional communication is required

Yes	No	Don't Know	No Response
5	14	6	4

Even if practitioners had signed up to the ERMS the majority did not have sufficient knowledge of what was expected of them if a referral was made, and how to effectively manage that process.

Table 28: Q10: ERMS use and expectation within the referral process: knowledge that this program could be used by planners and funders to run pilot studies in the future

Yes	No	Don't Know	No Response
6	12	7	4

The majority of survey participants did not understand the broader implications of being on the Back Pain Package/Programme, that could aide in evidence based research studies and funding for the profession.

Table 29: Q11: HealthPathways: Allied Healthways, Community HealthPathways, Hospital HealthPathways and HealthInfo:: knowledge of how to login and register to the Allied Healthways

Yes	No	Don't Know	No Response
9	13	3	4

This basic requirement of being able to login and utilise the Allied Healthways website, which is a clinical resource for allied health disciplines, was deficient for the majority of survey participants.

Table 30: Q10: HealthPathways: Allied Healthways, Community Health Pathways, Hospital HealthPathways and HealthInfo:: knowledge of- what clinical HealthPathway's are

Yes	No	Don't Know	No Response
13	9	3	4

Table 31: Q11: HealthPathways: Allied Healthways, Health Pathways, Community Health Pathways, Hospital HealthPathways and HealthInfo: knowledge of why they are relevant to clinical practice

Yes	No	Don't Know	No Response
9	11	5	4

Table 32: Q11: HealthPathways: Allied Healthways, Community Health Pathways, Hospital HealthPathway and HealthInfo:: knowledge of how to look up a clinical HealthPathway such as low back pain

Yes	No	Don't Know	No Response
9	11	5	4

Although education was provided in the launch of the Back Pain Package/Programme to enable it to be delivered in a standardised manner across the Canterbury Health Care system, the majority of survey participants reported they did not have a knowledge on the low back pain pathway, and the relevance this had to their clinical practice. For this reason, the majority of chiropractors would not be utilising these guidelines in their clinical practice. The basic skills in being able to access the relevant material was lacking in this case.

Table 33: Q11: HealthPathways: Allied Healthways, Community HealthPathways, Hospital HealthPathways and HealthInfo:: knowledge of how to submit feedback on a clinical HealthPathway

Yes	No	Don't Know	No Response
6	14	5	4

Table 34: Q11: HealthPathways: Allied Healthways, Community HealthPathways, Hospital HealthPathways and HealthInfo:: knowledge of why this is relevant to how you refer and manage you patients within the CDHB

Yes	No	Don't Know	No Response
7	13	5	4

Table 35: Q11: HealthPathways: Allied Healthways, Community HealthPathways, Hospital HealthPathways and HealthInfo:: knowledge of how you use Community HealthPathways as a resource for referral management within the CDHB e.g. a case presenting with cauda equina

Yes	No	Don't Know	No Response
4	14	7	4

Survey participants did not have a sufficient knowledge of how to practice cohesively within the Canterbury Initiative and CDHB policies and systems procedures. There is an expectation for chiropractors in New Zealand to have a knowledge and work within the health care system (NZCB, 2010). For chiropractors to be able to deliver on the Back Pain Package/Programme within their practices, they would need to be able to demonstrate a competence in local health care system policies and procedures. If they do not have this knowledge their ability to do so is impaired.

Facilitators and enablers

This section is set out in two sections:

1. Submitting chiropractic evidence based research under the Allied Healthways feedback option
2. Aides to assist ERMS registration and utilise Allied Healthways.

Submitting chiropractic evidence based research under the Allied Healthways feedback option

Although the main focus on this study was to identify the barriers to chiropractors participating in the Back Pain Package/Programme and sign up to the ERMS it is also useful to briefly look at some facilitators and enablers that would support further involvement and uptake in the future.

Placing feedback on the Allied Healthways site is a useful way of presenting evidence-based literature of how the chiropractic profession could contribute to the various clinical pathways. The table below demonstrates that chiropractors in the majority of cases are not placing feedback on the Allied Healthways site. If evidence-based research in the chiropractic field is not submitted then there is little chance of that material been updated into the guidelines.

Table 36: Q13 Survey participants were asked if they contribute feedback on the Allied Healthways, and Community HealthPathways websites.

Yes	No	Don't Know	Response
2	22	1	4

Already, as a consequence of my research Dr. Hayden Thomas, President NZCA, has formed a NZCA DHB policy group to keep abreast of activity occurring within the various DHBs around New Zealand.

HealthPathways has been rolled out in 43 health jurisdictions, looking after the wellbeing of 28 million people in countries including New Zealand, Australia and the United Kingdom (Streamliners NZ Ltd, 2020).

The Waitematā DHB, also has a feedback option on their Allied HealthPathways system. The chiropractic profession is listed as a profession for feedback placement and so feedback could be placed on this system for relevant clinical pathways to increase the visibility of the profession. It is likely that if the Waitemata District Health Board displays this option, then other DHBs are likely to also, if they have a similar HealthPathways programme in place. As one chiropractor explains who works within the Waitematā DHB.

The researcher enquired about whether the chiropractic profession's name showed up when placing feedback and the chiropractor reported *"yeah it does, you can send feedback"* (Code 8, Interview, p. 8 &9.). The chiropractor explains that chiropractic is not part of the Allied Health Team, *"so there is no Chiropractic in there, so that is kind of what they are doing today and Chiropractic is not really on their radar either"* (Code 8, Interview, p 8 &9).

Recommendation

The recommendation from this study is for the NZCA to collate evidence-based research and submit that under the various clinical pathways that pertain to the chiropractic professions scope of practice to the DHBs that utilise the HealthPathways system.

Aides to assist ERMS registration and utilise Allied Healthways

Key Informants and survey participants were asked to provide feedback on what would assist in ERMS registration and utilisation of Allied Healthways. The following feedback was provided and assembled in four broad categories: ERMS and Allied Healthways feedback, educational based feedback, funding models feedback, and systems feedback.

ERMS and Allied Healthways feedback

- Increased education on what the ERMS is and its relevance to clinical practice
- Followed by providing clear instructions on registration and use of the ERMS
- Education on how to login and register with Allied Healthways
- Education on the HealthPathways system and its relevance to clinical practice
- Weekend workshops and tutorials with sufficient notice to be able to attend.
- Ensuring processes are quick and user friendly in clinical practice
- E-mailed information and training was deemed to be unsatisfactory
- Education and expectations within the referral process

Education based feedback

- On-going education for GP's in understanding the science and scope of practice of a chiropractor
- Eliminating a biased referral criteria, therefore knowing referrals would be made to a chiropractor
- On-going education for allied health disciplines in understanding the science and scope of practice of a chiropractor

- Understanding differences in philosophical paradigms across the health care team and how that applies to practice.
- Under-graduate education and curriculum including a focus for team based health care and including chiropractic in that.

Funding models feedback

- Addressing funding models and inequity in funding models.

Systems feedback

- Transparency in system structure
- Safe reporting policies and procedures for harassment, bullying, prejudice, and discrimination
- Facilitation to promote psychological safety – ensuring professional respect and courtesy is maintained in professional relationships and liaison.
- Understanding any mandatory requirements to joining the ERMS.
- NZCB and NZCA facilitation, promotion, support and encouragement
- Retention of the Canterbury Initiative Allied Health Team Chiropractic Liaison contract.

Summary

To summarise the results, this study sought to investigate why New Zealand registered chiropractors in Canterbury are not participating fully as partners in the recent changes in initiatives, such as the Back Pain Package/Programme, established by the Canterbury Initiative and CDHB. In a wider context this might be seen as an exemplar for chiropractic's lack of participation in other regional district health boards in Aotearoa New Zealand and could inform

policy at a Ministry of Health level. Furthermore, it might also provide insight into why other allied health disciplines are not participating. The four objectives of the study were

1. To investigate why so few chiropractors practising within the region of the CDHB are not participating in the Back Pain Package/Programme and subsequently are not signing up to the ERMS.
2. To identify the barriers on a professional practice and system level influencing this lack of participation.
3. To investigate how a broader inclusion of the chiropractic profession in the health care sector in New Zealand could be achieved by way of facilitators and enablers for the Back Pain Package/Programme,
4. To investigate the consequences to the profession of chiropractors, of not having an understanding of, the Canterbury Initiative / CDHB policy and not participating in it.

The barriers to Canterbury chiropractors participating in the Back Pain Package/Programme, and sign up to the ERMS, and facilitators and enablers for future development are now summarised. These barriers can be broken down into four broad categories, that being, individual factors, psychological/behavioural factors, philosophical factors and systems factors. The individual factors were ones that were pertinent to chiropractors working in their private practices. These included not having sufficient knowledge to base decisions on around the right IT infrastructure that was needed to join the ERMS. This was further hindered by chiropractors having tried to sign up to DHB programmes in the past and

been blocked, creating an apathy in trying again. Lack of engagement by chiropractors in the programme was evident with a poor turnout at meetings. The use of e-mail as a form of information dissemination was raised as an issue. Chiropractors could see little point in engaging with the Back Pain Package/Programme if it had little rewards in terms of referral from GPs. The investment in doing so did not seem cost effective. Concerns around a biased referral criteria and hostility in relationships with GPs was a problem. Many practitioners claimed their practices were at capacity and did not want referrals from this source. Funding models that were in place at the time of this study may prevent access to care for some patients given the private practice business model, fee for service model that operates.

Psychological and behavioural factors that have resulted from past attacks on the profession and ones the New Zealand chiropractic profession has not transcended since the Royal Commission of Inquiry 1979 were evident. An old belief system exists of anticipating being ostracised or marginalised. This defensive pattern which may not be true of the current reality, impaired chiropractors participating in opportunities presented to them such as the Back Pain Package/Programme. A self-exclusionist and isolationist behavioural pattern which can be likened to Dunsmoor's (2015) proposed extension of the Pavlovian conditioning model. It is evident where humans use higher cortical processes in fear generalisation has meant that chiropractors will exclude themselves before risking the wrath of further attack or rejection. These acted as an impediment to opportunities presented to them in the Canterbury Initiative Back Pain Package/Programme context.

The chiropractic profession, whilst it has diverse ideologies, predominantly operates under a different philosophical paradigm to the traditional medical model and subscribes to a

vitalistic approach. Although many chiropractors do work collaboratively with the CDHB, others did not want to be affiliated with ACC or the traditional medical model.

System factors included difficulty in recruitment, such as forming and keeping an up to date database of all chiropractors practicing in the Canterbury region. Furthermore, the support and infrastructure from the NZCB and NZCA that might have persuaded the chiropractors to participate was lacking in this case. This included gaining the HPI/CPN and educating chiropractors about the updated statutes and how that applied not only to their clinical practice, but also, how that affected them in a broader health care context of CDHB policy. Lastly, funding models operational at the time of this study, may prevent access to care for some patients given the private practice business model, fee for service model in place.

This was further hindered by blocks to sufficient training and education by the Canterbury Initiative to upskill chiropractors in system procedures and policies that would allow their Back -Pain Package to succeed. They invested limited resource into the project by expecting chiropractors to work in a voluntary capacity at times, and by chopping and changing contracts and personnel before anything of significance could be realised. Although the aim of the Canterbury Initiative was to reduce pressure on Emergency Department admissions of acute low back pain, and take pressure of GP's practices, if GP's are not willing to refer and engage with chiropractors, a profession that specialises in the assessment and treatment of back pain in a primary health care setting. Then the Back Pain Package/Programme could only fail with regard to including chiropractic.

Overall, the implementation of the Back -Pain Package/Programme fell short of its objectives if the intent was to include chiropractors. There were moments where instances of

increased integration and team work did occur for example the inclusion of chiropractic in CDHB service provision, a first of its kind in the New Zealand context. The research sought feedback on what would allow chiropractors to participate in the ERMs and engage with Allied Healthways. If this feedback were implemented then it could change the course of future investment and work in this area.

Chapter 4: Discussion

One theme throughout the following documents: *Kia Whakakatahi Te Hoe O Te Waka*, *We Paddle Our Waka as One*, *The National Health Strategy* (2016a; 2016b); *The National Health Strategy*, (2016a; 2016b); *The Primary Health Care Strategy* (2001); *The Canterbury Implementation Plan* (2008, 2010), and the *CDHB Māori Health Strategy* (2017/2018) is the creation of a one team approach to the delivery of healthcare. The desire is to have all parts of the health care system linked up to create an integrated health care model, one that is patient and whānau centered to create better health care for all New Zealanders, whether that be at a regional or national level.

The Canterbury Initiative and CDHB Back Pain Package/Programme was aimed at reducing acute back pain cases entering the Christchurch Hospital Emergency Department and reducing demand on GP services for musculoskeletal conditions. They sought to achieve this by including the key disciplines that assess and treat back pain in the community, these being chiropractic, osteopathy, and physiotherapy. By encouraging GPs to refer to each of these three disciplines and by providing all disciplines the package and tools, they sought to change the face of service provision for the back pain problem.

Resource allocation in health care for Government and DHB's is a finite resource and because of this, how those resources are applied and to what health care disciplines is up for debate (Code 7, Interview). Chiropractic in New Zealand receives limited state funding for chiropractic services. It is a publicly funded service under the ACC model, however chiropractic's recognition and representation in this system is dis-proportionately low when compared to other musculoskeletal disciplines such as physiotherapy (NZCA, 2015). In an

international context in the likes of Denmark and Switzerland chiropractic is included in service provision at a state level and this has been achieved by working toward a secondary legitimacy (Myburgh, et al., 2008; Myburgh, 2014; Humprey's et al., 2010).

Pullon et al.'s (2008) study assessed the barriers to inter-professional teamwork in the Primary Health Care setting in New Zealand, more specifically the relationships between GPs and registered nurses. They found that the health care funding model that was operational as part of the *Primary Health Care Strategy 2001* had its limitations in supporting teamwork. The fee for service funding streams, where payments come from various sources, can vary for different disciplines and can act as a barrier to teamwork. The *Primary Health Care Strategy 2001* identified the need to fund on population based needs, as opposed to fee for service (King, & MoH, 2001).

This was certainly the case for the findings of this research project. The private practice business model (fee for service business model) that chiropractors operate under was not supportive of creating inter-professional collaboration in the Back Pain Package/Programme context. Many chiropractic practitioners reported they were operating at capacity with some not wanting to be affiliated with the ACC co-payment system. The private practice business model was seemingly working well for chiropractors and the demographic population they service. This may act as a barrier for lower socioeconomic populations accessing chiropractic care, which in turn increases inequalities. This is as a result of the private fee for service business model currently in place. It may be a deterrent for a GP to refer a patient who has limited financial means to a full fee service provider. A priority of the *Primary Health Care Strategy 2001* is to address financial barriers for the population requiring a range of health care services and needs

(King, & MoH, 2001). For the Back Pain Package/Programme to work, with the inclusion of chiropractic, it would be worthwhile for these funding models to be reviewed.

It was reported in Pullon et al.'s (2008) study that this can be overcome with excellent business practices that make time for inter-professional communication and participatory safety between disciplines. This was not the case for findings for this study in that although there were instances where good relationships between chiropractors and GPs have formed many were reporting hostile and futile relationships which would not foster a good referral and business relationship. There seemed little point in chiropractors engaging with the Back Pain Package/Programme when the result may be nil referrals, or a where GPs operated under a biased referral criteria, whereby they choose to refer to physiotherapists, osteopaths, or acupuncturists in preference to chiropractors.

A precursor to effective teamwork is the prerequisite of prior and on-going inter-professional education, professional development within teams, quality leadership and organisational structural support (Pullon et al., 2008). Although the Canterbury Initiative, in its initial roll out of the Back Pain Package/Programme, did dedicate some time and resource to an educational programme for GPs and allied health, the lack of engagement of chiropractors involved in this initially meant they did not have the skills to uptake or implement the Back Pain Package/Programme. The findings of my research project demonstrated that chiropractors had a poor grasp of the clinical tools, systems, and policies of the Canterbury Initiative and CDHB that would have allowed them to engage with the Back Pain Package/Programme.

The relationship between the Canterbury Initiative and chiropractors had areas of dysfunction. Communication and chiropractic practice management issues were evident in this

study. This was a result of not been provided the correct or breadth of information that would have allowed them to sign up to the ERMS at minimal financial outlay to their business. The fax requirement was seen to be outdated, and was a significant deterrent to chiropractors participating. Incompatibility between chiro-centric practice management software, and the Healthlink system caused issues in some cases and this was exacerbated by past experience when chiropractors had attempted to sign up to CDHB programmes but had been stifled. Conversely, barriers to join the ERMS Online with not having access to the HPI/CPN was a factor beyond the individual practitioners control and is an issue for the NZCB to address.

All of this seems somewhat disappointing when chiropractic liaisons and representatives worked hard to have chiropractic recognised as treatment providers for their designated scope of practice within the guideline documents (NZCB, 2004). There is a significant body of evidence-based literature detailing the contribution chiropractors can make in the area of musculoskeletal medicine (Herman, Lavelle, Sorbero, Hurwitz, Coulter, 2019; Herman, Luoto, Kommerareddi, Sorbero, Coulter, 2019; Jarvis, Phillips, & Morris, 1991; Ebrall, 1992; Hurtwitz, E.L., Vassalaki, M., Dongmei, L.I., Schneider, M.J., Stevens, J.M, Phillips, R.B., Phelan, S.B., Lewis, E.A, Armstrong, R.C 2016a; Hurwitz et al., 2016b.).

Weeks, Goertz, Meer, and Marchiori's (2015) study revealed the benefits of manipulation for back pain, neck pain, and headaches which has resulted in chiropractic been recognised in the guidelines internationally. As a result of the increasing body of research with regard to manipulation and neuro-musculoskeletal conditions chiropractic was included in the HealthPathways, local clinical guidelines in the CDHB context. The cost savings of including

chiropractic in service provision has been proven in some studies, not only to reduce opioid usage and dependence, but also to prevent long term disability (Weeks et al., 2015).

The National Health Service (NHS) in the United Kingdom has adopted a similar approach to the Back Pain Package/Programme and have placed physiotherapists and chiropractors into First Contact Practitioner roles triaging musculoskeletal conditions that enter GP practices to reduce demand on these services. The Nuffield Fund a think tank for health in the United Kingdom recently released figures that have shown there has been a sustained drop in GP visits for the first time in 50 years. With 29% of the United Kingdom population experiencing musculoskeletal issues over a lifetime, and 1 in 8 visits to a GP been musculoskeletal it makes sense to adopt this new model (World Federation of Chiropractic, 2019; The Royal College of Chiropractors, 2019). So why has this model worked in the United Kingdom context but not in the Canterbury, New Zealand, context for the chiropractic example. The Health Policy Unit of the Royal College of Chiropractors (United Kingdom) has published a *First Contact Practitioner Competencies* (2019) for chiropractors to support the requirements of working in this role. This document may also be useful to support chiropractors who want to work with the CDHB model. In the *Primary Health Care Strategy 2001* under the definition of primary health care, chiropractic is recognised as an essential service (King & MoH, 2001).

Despite the growing body of scientific evidence a disconnect still exists in the rates of care utilisation by the public. Further to this there is little evidence that GP referrals are a common form of patient inflow into chiropractic clinics (Triano & McGregor, 2016). This is true for the New Zealand and Canterbury context with chiropractic clinics only attributing GP referrals to 13% (ACC, 2016).

Triano and McGregor (2016), identified stigmas that act as barriers to GPs and other professionals referring and engaging with the chiropractic profession. Ultimately it was found that what practitioners do and how they behave matter to change ingrained stigma toward the chiropractic profession on a collective level. It requires practitioners to step up and engage themselves at the point where the greatest impact can be felt, that is, in their workplace and practice environment. It was found that the individual actions of chiropractors in their own practices had a far greater impact than collective action at an organisational level.

The lack of engagement by chiropractors in Canterbury to engage at the level of their individual practices with the Back Pain Package/Programme was evident in this situation. Triano and McGregor (2016, p.5) further identified barriers that have resulted from the harsh opposition to the chiropractic profession. Three key factors were found to act as distractors to the professions legitimisation and are responsible for the barriers in care utilisation and referral pathways. These were

- Survival behaviours
- Dominance of individual factional identity, incorporating complex interactions between individual beliefs and treatment technique systems, over professional identity.
- A stigmatised inter-professional culture that fosters defensive behaviours directed toward established social structures of health care (Triano & McGregor, p.5).

The correlation between Triano and McGregor's (2016) findings, and this study are strong. There were psychological and behavioural factors that acted as an impediment to

chiropractors participating in the Back Pain Package/Programme. These included an ingrained belief system whereby chiropractors anticipated they would be ostracised and marginalised. This victim consciousness created a withdrawal response in the Canterbury context whereby chiropractors self-excluded and isolated themselves in order to prevent experiencing further attack and rejection that has occurred in the past. The projection of these beliefs and behaviours on the current context impaired the clear foresight of what was occurring in reality, that is, the invitation by the Canterbury Initiative and CDHB to join the Back Pain Package/Programme and support the region's population health needs.

There are two further theories that were explored as a possible explanation as to what was occurring within the research scenario. Chadwick (2017) in his study examined workforce changes in the allied health sector in New Zealand, specifically the Counties Manukau DHB. He developed an integrated change base model to explain how institutional change progresses through its various cycles from dream, discover, design and deliver. Chadwick (2017) integrated various change theories to apply to the Counties Manukau allied health context and one that could be applied to the CDHB context. The third theory is Professor Mason Durie's concept of the interface, which addresses how indigenous ways of knowing can meet with the world of science to bring about new knowledges and improved ways of doing things (Ministry of Research and Technology, 2005).

To expand the workforce with the development of Allied Healthways and the inclusion of chiropractic, osteopathy, and physiotherapy into the Back Package/Programme was new territory. Not only were there tensions between the traditional medical model and the allied health disciplines but also, three musculoskeletal disciplines had to navigate how they could

work together effectively in this context. This stage of the change process, although it had its fraught moments, as trust developed amongst peers, was seen to be an overall success. This is what Bourdieu (1977) might explain as the social field; in this case allied health is the social field. At the beginning of the change process, the chiropractic, osteopathy, and physiotherapy professions were separate and well defined but as they worked together in the workgroup setting, they began to merge their “habitus” into a more cohesive and inclusive social field. They acknowledged whilst there were similarities in their work there were slight variances that made them unique and this can be seen diagrammatically in the figure below.

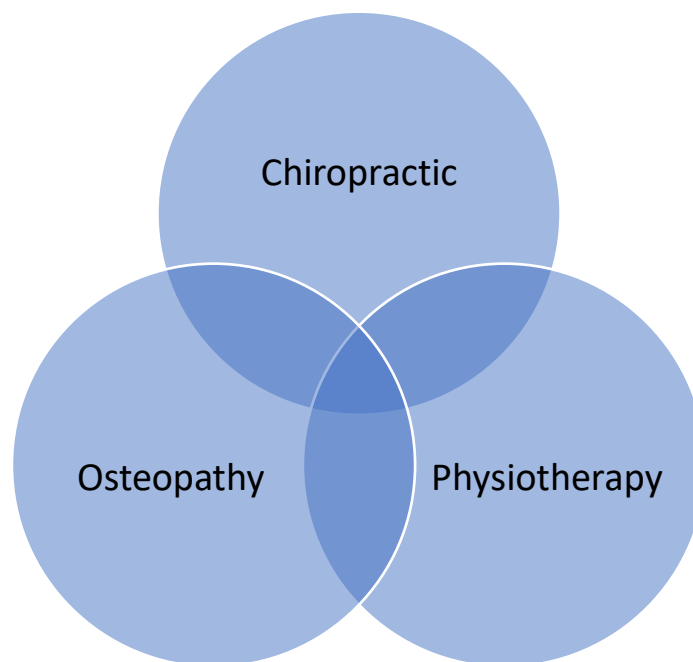


Figure 6: adaption of Chadwick's allied social field's illustration (Chadwick, 2017)

This design however needed to be translated into the wider community of practitioners that were serving the Canterbury population. The intended consequence was that practitioners

would uptake the Back- Pain Package/Programme and help to reduce the number of back pain cases entering Emergency Department and take the load off GP practices. What resulted in reality was, rather than the majority of practitioners participating, the opposite took effect. Moreover, the habitus of the GP and chiropractors social field remained fixed and did not become “porous” (Chadwick, 2017), preventing the initiative from gaining momentum. This is not to negate the small number of instances where good relationships formed between chiropractors and GPs. It was the delivery phase that barriers existed for this particular situation. Many chiropractors, but certainly not the majority, chose not to participate in the Back Pain Package/Programme, offering chiropractic’s ability to support the Canterbury population health needs. What this theory does not address is the different philosophical understandings that may have created a block in this case.

Professor Mason Durie (Ministry of Research Science Technology, 2005) offers another perspective to the concept of expanding boundaries, which would support the delivery of a *Canterbury Clinical Network Implementation Plan* (2008, 2010) vision of Whānau Ora (Ministry of Research Science Technology, 2005). Durie’s concept of the “interface” is the space where Mātauranga Māori (indigenous ways of knowing which include knowledge and understanding of the language (Te Reo) and the invisible and natural world) synergistically meet with the research world of science, to bring about new and improved possibilities for future generations. This concept could be relatable to many complementary alternative disciplines whose principles align with the natural world.

For chiropractors to feel as though they could participate in the Back Pain Package/Programme they would need to have a psychological safety that their views or

philosophical understanding of health care would be respected. The interface provides a theoretical model for that to occur and something that was lacking in this particular situation. *The Canterbury Clinical Network Implementation Plan* (2008.2010) seeks to have Whānau Ora as an overarching philosophy. Chiropractors had an opportunity to harmonise and contribute to a philosophy that holds similar values to their own. For the Back Pain Package/Programme to work in future contexts there would need to be some forgiveness from both sides and for the traditional medical model and the chiropractic community to meet half way. In meeting half way two philosophical outlooks, that of the traditional medical model, and the vitalistic philosophy of the chiropractic profession could synergise to support the vision of Whānau Ora.

For this to occur pragmatic strategies would need to be in place. Edmondson (1994, 2014) in her research developed the concept of psychological safety in teams and some of her foremost work was in healthcare teams. She focused on risk taking and being able to put views forward in team environments. Aviation programmes have been used in the health care setting to address power-gradients that prevent teamwork and by addressing this they have reduced the incidence of medical error because practitioners have felt more comfortable to voice their concerns (Korne, wijngaarden, Duck, Hiddema, Klazinga, 2013). Although these strategies have been used in the traditional medical model setting there have not been studies that have assessed how complementary and alternative medical disciplines operate in this forum. The chiropractic profession has been seen as an exemplar for how other complementary alternative disciplines enter the team (Myburgh et al., 2008; Myburgh, 2014). There is, therefore, an opportunity to expand further research in this context.

The change management process that was initiated and developed by the Canterbury Initiative for the Back Pain Package/Programme did have elements of success in the initial phases. It was the delivery phase of this process that the obstacles arose. This was due to the various barriers that were identified in this study. This highlights the disconnect between higher levels of health care policy and the effects of implementation of such policies into the real world context. Some of the barriers such as education, technological, and infrastructure issues could be easily remedied, other barriers where belief systems and lack of psychological safety exists may take longer to overcome. If the legislative framework is suggesting that failures of teamwork are impacting on public safety, then accountability for the barriers that are broader systems issues is necessary, particularly those that are beyond the individual practitioner's control. To allow the whakatauki *Kia Whakakatahi Te Hoe O Te Waka*, We Paddle Our Waka as One, to transpire in reality for the Back Pain/Programme, addressing the barriers and implementing the facilitators identified in this study is necessary.

Study Limitations

The first limitation of the study was the time constraint it had to be conducted in, that is, 8 March 2019 to 31st May 2020. This put restrictions on data collection and analysis.

The researcher is a registered chiropractor and also a registered nurse. She has worked in the medical model in phase one clinical trials as well as other roles, and gained her undergraduate training in a vitalistic philosophical chiropractic college. This is a strength and a weakness of the study. A bias could have resulted in the analysis and interpretation of study findings. A critical reflective practice and professional detachment was utilised in order to address this throughout each phase of the study process.

The study was externally reviewed throughout the entire study process by two external reviewers who were not chiropractors. One external reviewer, whilst not a chiropractor, is highly experienced in studying chiropractors.

Study Strengths

Because the Back Pain Package/Programme is the first time chiropractic has been included in DHB service provision in New Zealand the research here is a first in its kind to report on this inclusion. This is a real strength of this research and its findings because they provide a benchmark for further studies. Health policy research is lacking in chiropractic in the New Zealand context and so this research establish a knowledge base, and paves the way for further research in this area. This study interviewed a diversity of stakeholders, related to the Back Pain Package/Programme established by the CDHB Canterbury Initiative. A further strength is that the response rate in this survey exceeded other New Zealand based chiropractic surveys, suggesting an interest in the profession in the topics researched. The study was robustly conducted using a mixed method approach, ensuring a validity and trustworthiness of the study findings.

Concluding remarks

Kia Whakakatahi Te Hoe O Te Waka, We Paddle Our Waka as One is not a high ideal but a commitment to work together beyond differences. To come into contact with difference and forge a relationship with it, to meet in the *interface*, and develop new forms of knowledge that honor both the traditional medical model, and the non-tangible realities of Whānau Ora. The Canterbury Initiative Back Pain Package/Programme had a real opportunity to harmonise with the vision of Whānau Ora and align themselves with professions that have a holistic approach

such as chiropractic. Chiropractors for their part could have participated in a patient and whānau centered model. The one team approach has not transpired in the Canterbury Initiative Back Pain Package/Programme and from the chiropractic example, we have shown this is due to factors outside and inside chiropractors' control. If the legislative framework is suggesting that failures of teamwork are impacting on public safety, then accountability for the barriers which prevent a one team approach, and that are broader systems issues, is necessary, particularly those that are beyond the individual practitioners' control.

The opportunity for chiropractic to be included into CDHB service provision was a first of its kind for chiropractic both regionally and nationally. This possible inclusion of chiropractic into the Back Pain Package/Programme was in one sense, a miracle moment for the chiropractic profession. The failure to enable chiropractors take up this opportunity as expected by the Canterbury Initiative CDHB, and participate fully as partners is regrettable. Barriers were identified to explain this situation which in some instances may be transferrable to the wider allied health sector in New Zealand. Facilitators and enablers were offered as a solution for future contexts. Some of the barriers and facilitators may also be true of other CDHB programmes that seek to engage the allied health sector in the future. Therefore, this study may be of interest to the Ministry of Health and other regional DHB's for the betterment of population health in relation to back pain. In conclusion to sail our waka, over new seas, and step into a landscape where we meet at the *interface* and operate as one, under a one team approach, is a promising thought for the future of New Zealand health care.

References

Accident Compensation Corporation & New Zealand Guidelines Group. (1999, 1997). *New Zealand Acute Low Back Pain Guide: Incorporating the Guide to Assessing Psychological Yellow Flags in Acute Low Back Pain*. Wellington, New Zealand. Retrieved from <https://www.healthnavigator.org.nz/media/1006/nz-acute-low-back-pain-guide-acc.pdf>

Accident Compensation Corporation. (2019). *Your ACC Panui: Highlights from new study on Maori access to ACC services*. Received from YourAccPanui@ext.acc.co.nz

Accident Compensation Corporation (ACC). (2020). *What we do*. Retrieved from <https://www.acc.co.nz/about-us/who-we-are/what-we-do/?smooth-scroll=content-after-navs#our-vision>

Allied Health Aotearoa New Zealand (2015). *Submission on New Zealand Health Strategy and Roadmap of Actions*. (4th December, 2015). Wellington, New Zealand: Petrina Turner-Benny.

Allied Health Aotearoa New Zealand. (2019). *Allied Health Professional Associations Working Together*. Retrieved from <https://www.alliedhealth.org.nz/about-us.html>.

Allied Healthways. (2017). *Allied Healthways, Provider Listing Policy*. Retrieved from <http://canterbury.alliedhealthways.org.nz/index.htm>

Allied Healthways. (2019). *Allied Healthways, HealthPathways Clinical Governance*. Retrieved from <http://canterbury.alliedhealthways.org.nz/index.htm>

Baer, H. (2004). *Toward an integrative medicine, merging alternative therapies with biomedicine*. Lanham, MD: Rowman & Littlefield Publishers.

Baer, H. & Coulter, I. (2008). Introduction: Taking Stock of Integrative Medicine Broadening biomedicine or co-option of complementary and alternative medicine. *Health Sociology Review*, 17; 331-341.

Bloomfield, A. & Ministry of Health. (MoH). (2019). *Significant Changes Coming into Effect 1 July*. Wellington, New Zealand: Ministry of Health.

Bourdieu, P. (1977). *Outline of a Theory of Practice*. Cambridge, England: Cambridge University Press.

Canterbury District Health Board (2017/2018). *Maori Health Action Plan*. Retrieved from <https://ccn.health.nz/Portals/18/1.%20Programme%20team/Programme%20Coordination/Documents/Resources%20page/Canterbury%20M%C4%81ori%20health%20action%20plan%202017-18.pdf?ver=2019-11-29-134048-483×tamp=1575249723508>

Canterbury Clinical Network. (2008). *Draft, Canterbury Clinical Network Implementation Plan, to deliver better, sooner, more convenient, primary health care in Canterbury*. Christchurch, New Zealand: Author.

Canterbury Clinical Network. (2010). *Canterbury Clinical Network Implementation Plan, to deliver better, sooner, more convenient, primary health care in Canterbury*. (15 May 2010). Christchurch, New Zealand: Author.

Canterbury Clinical Network. (2019). *The Canterbury Clinical Network fact sheet*. Retrieved from [https://ccn.health.nz/Portals/18/1.%20Programme%20team/Programme%20Coordination/Documents/Resources%20page/CCN%20Fact%20Sheet Nov19.pdf?ver=2019-11-29-113351-953](https://ccn.health.nz/Portals/18/1.%20Programme%20team/Programme%20Coordination/Documents/Resources%20page/CCN%20Fact%20Sheet%20Nov19.pdf?ver=2019-11-29-113351-953)

Canterbury Clinical Network. (2020). *Our Structure*. Retrieved from <https://ccn.health.nz/About-us/Our-Structure>

Canterbury District Health Board. (2020). *Our Leadership Team*. Retrieved from <https://ccn.health.nz/Portals/18/DNNGalleryPro/uploads/2019/12/12/CanterburyDHBSLMPlanJune2019-MoHApproved.pdf>

Canterbury Health System & Canterbury Clinical Network. (2019-20). *Systems Level Measures Improvement Plan*. Retrieved from <https://ccn.health.nz/Portals/18/DNNGalleryPro/uploads/2019/12/12/CanterburyDHBSLMPlanJune2019-MoHApproved.pdf>

Canterbury Initiative. (2017). *Progress Report Allied Healthways, 6th September*. The Canterbury Initiative, AlliedHealthways, Christchurch, New Zealand.

Canterbury Initiative. (2019). *Document of definitions*. Retrieved from cdhb.health.nz/canterburyinitiative

Chadwick, M. (2017). *Leading Health Workforce Change: Insights from Experience*. (A thesis submitted to Auckland University of Technology in partial fulfilment of the requirements for the degree of Doctor of Health Science.) School of Clinical Sciences, Faculty of Health and Environmental Science, University of Auckland, New Zealand.

Coulter, I., Hilton, L. Ryan, G., Ellison, M., Rhodes, T. (2008). Trials and Tribulations on the Road to Implementing Integrative Medicine in a Hospital Setting. *Health Sociology Review*, 17(4) 368-383. DOI:10.5172/hesr.451.17.4.368

Coulter, I., Khorson, K., Crawford, C., & Hsiao, A.F. (2010). Integrative health care under review: an emerging field. *Journal of Manipulative and Physiological Therapeutic*, 33, 690-710.

Creswell, J., Plano Clark, V. L. (2007). *Designing and Conducting mixed methods research*. Thousand Oaks, CA: Sage Publications

Creswell, J. (2015). *Concise Introduction to mixed methods research*. Thousand Oaks, CA: Sage Publications

Dew, K. (1998). *Borderland Practices: validating and regulating alternative therapies in New Zealand*. Wellington, New Zealand: Victoria University Press.

Dunn, A. (2006). A Survey of Chiropractic Academic Affiliations Within the Department of Veteran Affairs Health Care System. *Journal of Chiropractic Education*, 21(2), 138-143. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2384186/>

Dunn, A., Green, B., Gilford, S., (2009). An analysis of the integration of chiropractic services within the United States Military and Veterans Health Care Systems. *Journal of Manipulative and Physiological Therapeutics*, 32(9), 749-757. doi:10.1016/j.jmpt.2009.10.009

Dunsmoor, J.E. & Murphy, G.L. (2015). Categories, concepts and conditioning: how humans generalize fear. *Trends in Cognitive Science*, 19 (2), 73-77.

Ebrall, P. (1992). Mechanical low back pain: a comparison of medical and chiropractic management within the Victorian Workcare Scheme. *Chiropractic Journal of Australia*, 22(2); 47-53.

Edmondson, A C. (1999). Psychological safety and learning in work teams. *Administrative Science Quarterly*, 44(2), 350-83.

Edmondson, A. (2002). Managing the Risk of Learning: Psychological Safety in Work Teams. Forthcoming in West, M. (Ed). *International Handbook of Organisational Teamwork*. London, England: Blackwell.

Edmondson, A., & Lei, Z. (2014). Psychological Safety: The History, Renaissance, and Future of Interpersonal Construct. *Annual Review of Organizational Psychology and Organizational Behavior*, 1, 23-43.

Edwards, E., & Canterbury Clinical Network. (2018). *Primary Care Capability Hauora a Hapori: Key Messages: PCC SLA 28 December 2018*. Retrieved from <https://ccn.health.nz/Portals/18/1.%20Programme%20team/Programme%20Coordination/Documents/Resources%20page/Canterbury%20M%C4%81ori%20health%20action%20plan%202017-18.pdf?ver=2019-11-29-134048-483×tamp=1575249723508>

Green, B.N. & Johnson, C.D. (2019). Fighting Injustice: A Historical Review of the National Chiropractic Anti-Trust Committee. *Journal of Chiropractic Humanity*, 20, p.19.

Hacker, H. (1951). Women as a Minority Group. *Social Forces*, 30, (1), 60-69. DOI:10.2307/2571742.

Health Central.NZ. (2018). *First ever Chief Allied Health Officer excited at joining new-look Ministry*. Retrieved from <https://healthcentral.nz/first-ever-chief-allied-health-officer-excited-at-joining-new-look-ministry/>

Health and Disability Auditing New Zealand Limited. (2020). *Allied Health*. Retrieved from <https://hdanz.co.nz/hdanz-programmes/allied-health/>

Healthlink Ltd., Novess, T., Muslen, L., Donnelly, M., & Hurrell, T. (2016). *Care Connect e-Referrals: e-Referrals User Guide 2.0*. Healthlink Ltd. New Zealand.

Healthlink. (2020). *Healthlink Messaging System: Safe and Secure Sharing of Information*. Retrieved from <https://nz.healthlink.net/products/secure-messaging/>

Healthpathways. (2020a.). Allied Healthways, Canterbury Initiative Allied Health Team. Retrieved from <https://canterbury.alliedhealthways.org.nz/18106.htm>

Healthpathways. (2020b.). *Allied Healthways: ERMS Online Newsletter*. Christchurch, New Zealand. Retrieved from <https://canterbury.alliedhealthways.org.nz/Resources/ERMSONlineDecembereNewsletter.pdf>

Healthpathways. (2020c.). *Allied Healthways, New: 10th March 2020: Tortocolis in Infants*. Christchurch, New Zealand. Retrieved from <https://canterbury.alliedhealthways.org.nz/63693.htm>

Healthpathways. (2020d.). Allied Healthways, *What is Allied Health Pathways*. Retrieved from <https://canterbury.alliedhealthways.org.nz/43160.htm>

Herman PM, Lavelle TA, Sorbero ME, Hurwitz EL, Coulter ID, (2019). Are nonpharmacologic interventions for chronic low back pain more cost effective than usual care? Proof of concept results from a Markov model. *Spine*, 44(20): 1456-1464. DOI: [10.1097/BRS.0000000000003097](https://doi.org/10.1097/BRS.0000000000003097). PMC1528128

Herman PM, Luoto JE, Kommareddi M, Sorbero ME, Coulter ID (2019). Patient willingness to pay (WTP) for reductions in chronic low back pain and chronic neck pain. *Journal of Pain*. 2019; 20(11): 1317-1327. <https://doi.org/10.1016/j.jpain.2019.05.002> PMC1530519

Humphreys, B. K., Peterson, C, Muehleman, D, & Haueter, P. (2010). Are Swiss Chiropractors Different than Other Chiropractors? Results of the Job Analysis Survey 2009. *Journal of Manipulative Physiological Therapeutics*, 35 519-535.

Hurwitz,E.L., Vassilaki, M., Dongmei, LI., Scheneider, M.J., Stevans. T.M., Phillips, R.B., Phelan, S.B., Lewis, E.B., Armstrong, R.C. (2016a). Variations in Pattern of Utilization and Charges for the Care of Neck Pain in North Carolina 2000-2009: A Statewide Claims' Data Analysis. *Journal of Manipulative Physiological Therapeutics*, 39(4); 240-51.

Hurtwitz, E.L, Vassilaki, M., Dongmei, LI., Scheneider, M.J., Stevens, T.M., Phillips, R.B., Phelan, S.B., Lewis, E.B., Armstrong, R.C. (2016b). Variations in Patterns of Utilization and Charges for the Care of Low Back Pain in North Carolina, 2000-2009: A Statewide Claims' Data Analysis. *Journal of Manipulative Physiological Therapeutics*, 39 (4); 252-62.

Inglis, B. D., Fraser, B., Penfold, B.R., Heath, L.T., (1979). *Chiropractic in New Zealand Report 1979*. Wellington, New Zealand: The Government Printer.

Jarvis KB, Phillips RB, Morris, EK (1991). Cost per case comparison of back injury claims of chiropractic versus medical management for conditions with identical diagnostic codes. *Journal of Occupational Medicine: Official Publication of the Industrial Medical Association*, 33 (8); 847-52.

Johnson, N.R. (2007). *(Un)Learning Oppression Through the Body: Toward an Embodied Critical Pedagogy*. (Unpublished Doctoral thesis). University of Toronto, Ontario, Canada. Retrieved from [https://www.academia.edu/629492/ Un learning oppression through the body Toward an embodied critical pedagogy](https://www.academia.edu/629492/Un_learning_oppression_through_the_body_Toward_an_embodied_critical_pedagogy)

King A. & Ministry of Health. (MoH). *The Primary Health Care Strategy*. Retrieved from https://www.health.govt.nz/system/files/documents/publications/phcstrat_0.pdf

Korne, D., Wijngaarden, J., Duck, C., Hiddema, U., & Klazinga, N. (2013). Evaluation of aviation based safety team training in hospital in Netherlands. *Journal of Health Organisational Management*, 28, 731-753.

Leboeuf, Y, C., Innes, S., Young, K., Kawchuk, G., & Hartvigsen, J. (2019). Chiropractic, One Big Unhappy Family: better together or apart? *Chiropractic and Manual Therapies*, 27(4), 2-8.

Lewis, O. (2018). Canterbury District Health Board Reviewing Services to Claw Back Large Deficit. *Stuff*. Retrieved from <https://www.stuff.co.nz/national/health/115889257/canterbury-district-health-board-reviewing-services-to-claw-back-large-deficit>

Lingard, L, Albert, M, Levinson, W. (2008). Qualitative Research Grounded Theory, Mixed Methods, and action research. *British Medical Journal*, 337, 459-461

Mathers, N., Fox, N., & Hunn, A. (2007). *Surveys and Questionnaires*. The National Institute Health Research (NIHR) RDS for the East Midlands/Yorkshire & the Humber.

Mertens, D. (2009). *Transformative Research and Evaluation*. The Gulliford Press, United States of America.

Ministerial Advisory Committee on Complementary and Alternative Health. (2004). *Complementary and Alternative Health Care in New Zealand, Advice to the Minister of Health*. Wellington, New Zealand: Ministerial Advisory Committee on Complementary and Alternative Medicine.

Ministry of Health (MoH). (2012). *2012 Review of the Health Practitioners Competence Assurance Act 2003: A Discussion Document*. Wellington, New Zealand: Ministry of Health.

Ministry of Health (MoH). (2015). *HPCAA-Review-Final Paper from Cabinet*. Wellington, New Zealand. Retrieved from

<https://www.health.govt.nz/system/files/documents/pages/hpcca-review-finalpaperfromcabinet.pdf>

Ministry of Health. (MoH). (2016a.). *New Zealand Health Strategy Future Direction*. (April, 2016). Wellington: New Zealand: Author.

Ministry of Health. (MoH). (2016b.). *New Zealand Health Strategy Roadmap of actions*. (April, 2016). Wellington: New Zealand: Author.

Ministry of Health. (MoH). (2018a.). *About the Ministry: What We Do*. Retrieved from <https://www.health.govt.nz/about-ministry>

Ministry of Health. (MoH). (2018b.). *Departmental Disclosure Statement: Health Practitioners Competence Assurance Amendment Bill*. Wellington, New Zealand. Retrieved from <http://www.legislation.govt.nz/act/public/2003/0048/latest/DLM204334.html#DLM204334>

Ministry of Health. (MoH). (2018c.). *Health Practitioners Competence Assurance Act 2003*. Retrieved from <https://www.health.govt.nz/our-work/regulation-health-and-disability-system/health-practitioners-competence-assurance-act>

Ministry of Health. (MoH). (2019a.). *New Measures Being Introduced to Help Minimise Patient Harm*. Wellington, New Zealand. Retrieved from <https://www.health.govt.nz/news-media/news-items/new-measures-being-introduced-help-minimise-patient-harm>

Ministry of Health. (MoH). (2019b.). *Canterbury DHB*. Wellington, New Zealand. Retrieved from <https://www.health.govt.nz/new-zealand-health-system/my-dhb/canterbury-dhb>

Ministry of Health. (MoH). (2020). *Health Provider Index*. Ministry of Health. Wellington. New Zealand. Retrieved from <https://www.health.govt.nz/our-work/health-identity/health-provider-index>

Ministry of Research Science Technology. (2005). *Vision Mātauranga: Unlocking the Innovation Potential of Māori, Knowledge, Resources and People*. Wellington, New Zealand.

Muir, R. (1999). Symbolic Landscapes In: *Approaches to Landscape*. London, England: Palgrave.

Museum of New Zealand Te Papa Tongarewa, Costello, J. (2015). *Pākehā: The real meaning behind a beautiful word*. Retrieved from <https://blog.tepapa.govt.nz/2018/09/14/pakeha-the-real-meaning-behind-a-beautiful-word/>

Myburgh, C. (2014). A Qualitative Exploration of Key Informant Perspectives Regarding the Nature of Impact of Contemporary Legislation on Professional Development: A Grounded Theory Study of Chiropractic in Denmark. *Journal of Manipulative and Physiological Therapies*, 37(6) 383-395. <http://dx.doi.org/10.1016/j.jmpt.2014.06.001>.

Myburgh, C., Hartvigsen, J., Grunnet-Nilsson, N. (2008). Secondary Legitimacy: A Key Mainstream Health Care Inclusion Strategy for the Danish Chiropractic Profession? *Journal of Manipulative and Physiological Therapeutics*, 31(5), 392-395. doi:10.1016/j.jmpt.2008.04.003.

Nahe, H. (1894). The Origins of the Words “Pakeha” and “Kaipuke”. *The Journal of Polynesian Society*, 3, (4), 235-236.

New Zealand Chiropractors’ Association (NZCA). (2020). *About the NZCA*. Retrieved from <https://www.chiropractic.org.nz/about-us/about-nzca/>

New Zealand Chiropractic Board. (NZCB). (2004). *The Scope of Practice of a Chiropractor*. Retrieved from <https://www.chiropracticboard.org.nz/Portals/12/Scope%20of%20Practice%20-%202010.pdf>

New Zealand Chiropractic Board. (NZCB). (2010). *Competency- Based Professional Standards for Chiropractors*. Retrieved from <https://www.chiropracticboard.org.nz/Portals/12/Competency%20Based%20Standards%202010.pdf?ver=2016-06-21-142625-830>

New Zealand Chiropractic Board (NZCB). (2015). *Code of Ethics*. Retrieved from <https://www.chiropracticboard.org.nz/Portals/12/Code%20of%20Ethics%202015.pdf>

New Zealand Chiropractic Board (NZCB). (2017). *Board Policy, Standards of Cultural Competence*. Retrieved from <https://www.chiropracticboard.org.nz/Portals/12/Standards%20of%20cultural%20competence%20policy%20adopted%20Nov%2017.pdf?ver=2017-12-13-120216-347>

New Zealand Chiropractic Board (NZCB). (2019a.). *Consultation Outcomes Report: Recertification Programme for Newly Registered Overseas Trained Chiropractors: Consultation Feedback*. Retrieved from <https://www.chiropracticboard.org.nz/Portals/12/Consultation%20Outcomes.pdf?ver=2019-12-09-120115-450>

New Zealand Chiropractic Board (NZCB). (2020). *New Zealand Chiropractic Board*. Wellington, New Zealand. Retrieved from <https://www.chiropracticboard.org.nz/>

New Zealand Government. (2019), ([HPCAA Act, 2019](#)). *The Health Practitioner Competence Assurance Amendment Act (2019)*. Retrieved from <http://legislation.govt.nz/act/public/2019/0011/latest/LMS11957.html>

New Zealand Government, Parliamentary Council Office. (2003), ([HPCA Act, 2003](#)). *Health Practitioners Competence Assurance Act (2003): 118 Function of Authorities*. Retrieved from <http://www.legislation.govt.nz/act/public/2003/0048/latest/DLM204334.html#DLM204334>

New Zealand Government, Parliamentary Council Office. (2018), ([Family Violence, 2018](#)). *Family Violence Act (2018)*. Retrieved from: <http://legislation.govt.nz/act/public/2018/0046/latest/DLM7159322.html>

New Zealand Government, Parliamentary Council Office. (1989), (Oranga Tamariki, 1989). *Oranga Tamariki Act (1989)* previous title *Children's and young people's well-being Act (1989)*. Retrieved from:
<http://www.legislation.govt.nz/act/public/1989/0024/latest/DLM147088.html>

New Zealand Stakeholders Advisory Committee. (2019). *2019 Survey of the New Zealand Chiropractic Profession: Analysis of Survey Data Prepared for the New Zealand College of Chiropractic Stakeholders Advisory Committee*. Retrieved from
http://chiropractic.ac.nz/wp-content/uploads/NZCC_SAC-Survey-Report-2019.pdf?fbclid=IwAR2jlPE85vizKdDqUIDOdSEI4_q56wCRfq0SjiIpRSqm8seaZ9jwCzzP3VU

Noy, C. (2014). Sampling Knowledge: The Hermeneutis of Snowball Sampling in Qualitative Research. *International Journal of Social Research*, 1 (4), 327-344

Pegasus Partners in Health. (2020). *Business Information Services*. Retrieved from
<https://www.pegasus.health.nz/careers/working-at-pegasus-health/business-information-services/>

PHO Alliance, He huinga ratonga hauora. (2015). *A time to act: 7 actions which will help sustain the New Zealand health service for future generations*. (17 February, 2015). Wellington: New Zealand: John Ayling.

PHO Alliance, He huinga ratonga hauora. (2015). *A time to act: Implementation Solutions*. (22 May, 2015). Wellington: New Zealand: John Ayling.

Poynton, L., Dowell, A., Dew, K., & Egan, T. (2006). General Practitioners' attitudes toward (and use of) Complementary Alternative Medicine: A New Zealand Nationwide survey. *The New Zealand Medical Journal*, 119, 1-9.

Pritchard. (2008). *National Directory of Chiropractors & Chiropractic Services: NZ 2008 Ed*. Advanced Health Publishing. Auckland, New Zealand.

Pullon, S., McKinlay, E., & Dew, K. (2009). Primary Health Care in New Zealand: The Impact of Organisational Factors of Teamwork. *British Journal of General Practice*, 59, 191-197. DOI:10.3399/bjgp09x395003.

Richards, D., Emmanuel, E., & Grace, S. (2017). Dueling Ontologies: Might Vitalism offer balance and value? *EXPLORE: The Journal of Science and Healing*, 13, 133-138.

Royal College of Chiropractors (RCC). (2019). *First Contact Practitioner Competencies, The Royal College of Chiropractors, Chiropractic Provision of First Contact Practitioner MSK Services, Skills Competencies and Caseloads*. RCC Health Policy Unit. Retrieved from
https://rcc-uk.org/wp-content/uploads/2019/09/First-Contact-Practitioner-Competencies_Pages-version_Web.pdf

Short, K. (2011). *The Little Game Called Divide and Hide; Foucault's genealogy of the Commission of Inquiry into Chiropractic 1979 and the current position of Chiropractic in New*

Zealand (unpublished dissertation of the requirements of HLTH405). University of Canterbury, Christchurch, New Zealand.

South Island Alliance. (2019). *Work force development hub, Calderdale Framework*. Retrieved from <https://www.sialliance.health.nz/our-priorities/workforce-development-hub/calderdale-framework/>

Statistics New Zealand. & Macpherson, L. (2013). *Disability Survey*. Wellington, New Zealand. Retrieved from <http://archive.stats.govt.nz/~media/Statistics/Browse%20for%20stats/DisabilitySurvey/HOTP2013/DisabilitySurvey2013HOTP.pdf>

Streamliners New Zealand Ltd. (2020). *What we do*. Retrieved from <https://www.streamliners.co.nz/>

Triano, J.J. & McGregor, M. (2016). Core and Complementary Chiropractic: Lowering Barriers to Patient Utilization of Services. *Journal of Chiropractic Humanities*, 23 (1), 1-13.

University of Canterbury. (2019). *Qualtrics Survey Support*. Retrieved from <https://www.canterbury.ac.nz/about/academic-services/qualtrics-survey-support/>

Weeks, W.B., Goertz, C.M., Meeker, W.C., & Marchiori, D.M. (2015). Public Perceptions of Doctors of Chiropractic: Results of a National Survey and Examination of Variation According to Respondents Likelihood to use Chiropractic Experience with Chiropractic, and Supply Local Markets. *Journal of Manipulative Physiological Therapy*, 38 (8), 533-544.

Wellar, J. Boyd, M., & Cumin, D. (2014). Teams; Tribes and Patient Safety: Overcoming Barriers to Effective Teamwork in Healthcare. *Postgraduate-Medical Journal*, 37(6) 149-154. doi:10.1136/postgradmedj-2012-131168.

World Federation of Chiropractic. (2019). *Quarterly World Report, WFC Principles, This is Who We Are*. Retrieved from https://rcc-uk.org/wp-content/uploads/2019/09/First-Contact-Practitioner-Competencies_Pages-version_Web.pdf

Wikipedia. (2020). *Pākehā*. Retrieved from <https://en.wikipedia.org/wiki/P%C4%81keh%C4%81>

Appendices

Appendix A: Provider listing policy

Providers are listed on the following basis:

- Any health professional registered under the Health Practitioners Competence Assurance Act can be listed on Allied Healthways.
- Other providers are listed on Allied Healthways where:
 - the service provided is widely useful to the target audience of the Allied Healthways site as assessed by the senior clinical editor, and
 - the service meets specifically defined criteria e.g., the provider:
 - has specific qualifications.
 - offers a locally-recognised disease-specific programme.
 - is a member of a professional body.
 - is a member of a reputable organisation.
 - has [subspecialty qualifications or capabilities](#) recognised by a professional body (e.g., physiotherapist with special skills in shoulder injury recognised by Physiotherapy New Zealand).
- Providers who meet the agreed criteria are listed. It is not the role of Allied Healthways to formally credential individuals and we do not check claims made about scope of practice:
 - We expect anyone who claims they have training or experience in specific conditions or areas of practice to meet their obligations under the Health Practitioners Competence Assurance Act.
 - By selecting a particular subspecialty, the provider is claiming they are recognised by their peers and other health clinicians as having experience, and are currently practising, in this area.
- ERMS provider listings are aligned with the decisions made for Allied Healthways.
- Listings are associated with a prominent [standard disclaimer](#) in both Allied Healthways and ERMS.

Appendix B: Ethics approval letters and ethics correspondence





HUMAN ETHICS COMMITTEE

Secretary: Rebecca Robinson
Telephone: +64 03 369 4588, Extn 94588
Email: human-ethics@canterbury.ac.nz

Ref: HEC 2019/44/LR Amendment 1

22 October 2019

Krystal Short
Health Sciences
UNIVERSITY OF CANTERBURY

Dear Krystal

Thank you for your request for an amendment to your research proposal "A Study of Registered Chiropractics' Participation in Canterbury District Health Board and Canterbury Alliance's Transformational Health Care Vision for the Region" as outlined in your email dated 16th October 2019.

I am pleased to advise that this request has been considered and approved by the Human Ethics Committee.

Yours sincerely

A handwritten signature in black ink, appearing to be 'DS' followed by a stylized flourish.

Dr Dean Sutherland
Chair, Human Ethics Committee



HUMAN ETHICS COMMITTEE

Secretary, Rebecca Robinson
Telephone: +64 03 369 4588, Extn 94588
Email: human-ethics@canterbury.ac.nz

Ref: HEC 2019/44/LR Amendment 2

7 November 2019

Krystal Short
Health Sciences
UNIVERSITY OF CANTERBURY

Dear Krystal

Thank you for your request for an amendment to your research proposal "A Study of Registered Chiropractors' Participation in Canterbury District Health Board and Canterbury Alliance's Transformational Health Care Vision for the Region" as outlined in your emails dated 4th and 5th November 2019.

I am pleased to advise that this request has been considered and approved by the Human Ethics Committee.

Yours sincerely

A handwritten signature in black ink, appearing to be 'D. Sutherland'.

Dr Dean Sutherland
Chair, Human Ethics Committee



HUMAN ETHICS COMMITTEE

Secretary, Rebecca Robinson
Telephone: +64 03 369 4588, Extn 94588
Email: human-ethics@canterbury.ac.nz

Ref: HEC 2019/44/LR Amendment 3

23 December 2019

Krystal Short
Health Sciences
UNIVERSITY OF CANTERBURY

Dear Krystal

Thank you for submitting your low risk application to the Human Ethics Committee for the research proposal titled "A Study of Registered Chiropractors' Participation in Canterbury District Health Board and Canterbury Alliance's Transformational Health Care Vision for the Region".

I am pleased to advise that this application has been reviewed and approved.

Please note that this approval is subject to the incorporation of the amendments you have provided in your emails of 25th November and 1st, 9th and 17th December 2019.


With best wishes for your project.

Yours sincerely

A handwritten signature in black ink, appearing to be 'DS' followed by a stylized flourish.

Dr Dean Sutherland
Chair, Human Ethics Committee

Appendix C: Information sheets, and informed consent documents



Department of Health Science
Telephone: +64 0220911330
Email: krystal.short@pg.canterbury.ac.nz
15/07/2019
HEC Ref: 2019/44/LR

A Study of Registered Chiropractic's Participation in Canterbury District Health Board and Canterbury Alliance's Transformational Health Care Vision for the Region

Information Sheet for Key Informants

1. *My name is Krystal Short, I am undertaking research for the requirements of the Masters of Health Science programme through the Health Sciences Department at the University of Canterbury. I work in conjunction as a Registered Chiropractor and have a background as a Registered Nurse. My current research topic is looking into the recent policy changes made by the Canterbury Alliance within the Canterbury District Health Board, to include Chiropractic on the Allied Health Committee and the Electronic Referral Management System (ERMS) e-referral database for referral of musculoskeletal conditions. The Allied Health Committee Chiropractic Representative has liaised with the Canterbury Chiropractors about the opportunities to sign up or contribute to health care initiatives within the region. The objectives of this study are: the research firstly, seeks to ask why have so few Chiropractors (12/67 Chiropractors at the time of starting the research) residing within the region of the Canterbury District Health Board signed up to the ERMS GP e-referral database; secondly, To investigate how a broader inclusion beyond a legislative level under the Health Practitioner Competence Act 2003 could be achieved; thirdly, to investigate whether there are perceived risks to the Profession by Chiropractors, under the Health Practitioners Competence Assurance Act 2003 of not participating in or having an understanding of Canterbury Alliance or Canterbury District Health Board policy; fourthly, to identify professional, practice and system factors that are influencing this current situation.*

You have been approached to take part in this study because you are a Key Informant in relation to this field such as a Canterbury Alliance or New Zealand Chiropractic Association representative. I have located your contact details through through organisation contacts visible in the public domain.

If you choose to take part in this study, your involvement in this project will be to undertake an approximately one-hour long interview. Interview information will be recorded by digital audio recording.

As a follow-up to this investigation, you will be asked to either clarify information or offer further information that would enable the researcher to better inform the study. You will be given the opportunity to review any transcripts

In the performance of the tasks and application of the procedures there are risks of

1. *Whilst mental and emotional distress is not expected as a result of participation in this research, there is the possibility that this could occur, if a participant wishes to discuss any issues raised from their participation within the study, they are advised to contact their health practitioner in the first instance.*
2. *Whilst procedures have been undertaken to ensure moral and cultural offence is not intended in this study, if the participant believes moral or cultural offence has occurred, they should communicate their*

concerns with the Chair of the University of Canterbury Human Ethics Committee.

3. *Any information whereby you are asked to declare your association to a specific group, such as the New Zealand Chiropractic Association or Canterbury Alliance, will be kept anonymous.*

Participation is voluntary and you have the right to withdraw at any stage without penalty. You may ask for your raw data to be returned to you or destroyed at any point. If you withdraw, I will remove information relating to you. However, once analysis of raw data starts in October 2018, it will become increasingly difficult to remove the influence of your data on the results.

The results of the project may be published, but you may be assured of the complete confidentiality of data gathered in this investigation: your identity will not be made public without your prior consent. To ensure anonymity and confidentiality. When undertaking an interview informed consent forms will be coded and matched with transcripts, codes will be placed on a master sheet. Informed consent forms and research data will be kept separate. All data will be stored in a locked filing cabinet in the Health Sciences Department at the University of Canterbury. The named Researcher and Supervisors will be the only people who will have access to this research data. All data will be terminated after 5 years. A thesis is a public document and will be available through the UCLibrary.

Please indicate to the researcher on the consent form if you would like to receive a copy of the summary of results of the project.

The project is being carried out as a requirement for the degree in Masters of Health Science by Krystal Short under the supervision of Dr Ray Kirk and Dr Ian Coulter who can be contacted at ray.kirk@canterbury.ac.nz They will be pleased to discuss any concerns you may have about participation in the project.

Please be informed the researcher is the recipient of the New Zealand Chiropractic Association's Mackay Post Graduate Scholarship 2019. Furthermore, a grant application has been placed with the Hamblin Trust Chiropractic Research Fund, in New Zealand, an award has been offered and this is currently being processed.

This project has been reviewed and approved by the University of Canterbury Human Ethics Committee, and participants should address any complaints to The Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

If you agree to participate in the study, you are asked to complete the consent form prior to conducting an electronic survey or prior to int



Department Health Sciences
Telephone: +64 0220911330
Email: krystal.short@pg.canterbury.ac.nz

**A Study of Registered Chiropractic's Participation in Canterbury District Health Board and
Canterbury Alliance's Transformational Health Care Vision for the Region**

Consent Form for Key Informants

- ☐ I have been given a full explanation of this project and have had the opportunity to ask questions.
- ☐ I understand what is required of me if I agree to take part in the research.
- ☐ I understand that participation is voluntary and I may withdraw at any time without penalty. Withdrawal of participation will also include the withdrawal of any information I have provided should this remain practically achievable.
- ☐ I understand that any information or opinions I provide will be kept confidential to the researcher or research Supervisors and that any published or reported results will not identify the participants. I understand that a thesis is a public document and will be available through the UC Library
- ☐ I consent to my interview being recorded by a digital device
- ☐ I understand that all data collected for the study will be kept in locked and secure facilities and/or in password protected electronic form and will be destroyed after five years.
- ☐ I understand the risks associated with taking part and how they will be managed.
- ☐ I understand that I can contact the researcher *Krystal Short* at krystal.short@pg.canterbury.ac.nz or supervisor *Professor Ray Kirk* or *Professor Ian Coulter* at ray.kirk@canterbury.ac.nz for further information. If I have any complaints, I can contact the Chair of the University of Canterbury Human Ethics Committee, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz)
- ☐ I would like a summary of the results of the project.
- ☐ By signing below, I agree to participate in this research project.

Name: _____ Signed: _____ Date: _____

Email address (for report of findings, if applicable): _____



Department of Health Science
Telephone: +64 0220911330
Email: krystal.short@pg.canterbury.ac.nz
23/12/2019
HEC Ref: 2019/44/LR

A Study of Registered Chiropractic's Participation in Canterbury District Health Board and Canterbury Alliance's Transformational Health Care Vision for the Region

Information Sheet for Key Informants

1. *My name is Krystal Short, I am undertaking research for the requirements of the Masters of Health Science programme through the Health Sciences Department at the University of Canterbury. I work in conjunction as a Registered Chiropractor and have a background as a Registered Nurse. My current research topic is looking into the recent policy changes made by the Canterbury Alliance and Canterbury Initiative within the Canterbury District Health Board, to include Chiropractic on the Allied Health Team and the Electronic Referral Management System (ERMS) e-referral database for referral of musculoskeletal conditions. The Allied Health Team Chiropractic Representative has liaised with the Canterbury Chiropractors about the opportunities to sign up or contribute to health care initiatives within the region. The objectives of this study are: the research firstly, seeks to ask why have so few Chiropractors (12/67 Chiropractors at the time of starting the research) residing within the region of the Canterbury District Health Board signed up to the ERMS GP e-referral database; secondly, To investigate how a broader inclusion beyond a legislative level under the Health Practitioner Competence Act 2003 could be achieved; thirdly, to investigate whether there are perceived risks to the Profession by Chiropractors, under the Health Practitioners Competence Assurance Act 2003 of not participating in or having an understanding of Canterbury Alliance or Canterbury District Health Board policy; fourthly, to identify professional, practice and system factors that are influencing this current situation.*

You have been approached to take part in this study because you are a Key Informant in relation to this field such as a Canterbury Alliance, Canterbury Initiative, or New Zealand Chiropractic Association representative. I have located your contact details through organisation contacts visible in the public domain.

If you choose to take part in this study, your involvement in this project is to consider whether you give permission for the researcher use emails that you have authored for the data collection and data analysis and subsequent writing of any report for this research. These are either emails that you have authored and have occurred between yourself and the researcher between the study period of 13th March 2019 to 31st March 2020, or emails you have authored between parties, other than the researcher, and have forwarded or provided the researcher these communications, throughout the study period of 13th March 2019 to 31st March 2020.

As a follow-up to this investigation, you will be asked to either clarify information or offer further information that would enable the researcher to better inform the study.

In the performance of the tasks and application of the procedures there are risks of

1. *Whilst mental and emotional distress is not expected as a result of participation in this research, there*

- is the possibility that this could occur, if a participant wishes to discuss any issues raised from their participation within the study, they are advised to contact their health practitioner in the first instance.*
- 2. Whilst procedures have been undertaken to ensure moral and cultural offence is not intended in this study, if the participant believes moral or cultural offence has occurred, they should communicate their concerns with the Chair of the University of Canterbury Human Ethics Committee.*
 - 3. Any information whereby you are asked to declare your association to a specific group, such as the New Zealand Chiropractic Association or Canterbury Alliance or Canterbury Initiative, will be kept anonymous.*

Participation is voluntary and you have the right to withdraw at any stage without penalty. You may ask for your raw data to be returned to you or destroyed at any point. If you withdraw, I will remove information relating to you. However, once analysis of raw data starts in October 2019, it will become increasingly difficult to remove the influence of your data on the results.

The results of the project may be published, but you may be assured of the complete confidentiality of data gathered in this investigation: your identity will not be made public without your prior consent. To ensure anonymity and confidentiality. When collecting and collating email information in the circumstance where emails have been requested to remain confidential and anonymous, informed consent forms will be coded and matched with the codes from email content and will be placed on a master sheet. Informed consent forms and research data will be kept separate. All data will be stored in a locked filing cabinet in the Health Sciences Department at the University of Canterbury. The named Researcher and Supervisors will be the only people who will have access to this research data. All data will be terminated after 5 years. A thesis is a public document and will be available through the UCLibrary.


Please indicate to the researcher on the consent form if you would like to receive a copy of the summary of results of the project.

The project is being carried out as a requirement for the degree in Masters of Health Science by Krystal Short under the supervision of Dr Ray Kirk and Dr Ian Coulter who can be contacted at ray.kirk@canterbury.ac.nz. They will be pleased to discuss any concerns you may have about participation in the project.

Please be informed the researcher is the recipient of the New Zealand Chiropractic Association's Mackay Post Graduate Scholarship 2019. Furthermore, a grant application has been placed with the Hamblin Trust Chiropractic Research Fund, in New Zealand, an award has been offered and this is currently being processed.

This project has been reviewed and approved by the University of Canterbury Human Ethics Committee, and participants should address any complaints to The Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

If you agree to participate in the study, you are asked to complete the consent form prior to conducting an electronic survey or prior to int


UC
UNIVERSITY OF
CANTERBURY
Tūhono Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Department Health Sciences
Telephone: +64 0220911330
Email: krystal.short@pg.canterbury.ac.nz

A Study of Registered Chiropractic's Participation in Canterbury District Health Board and Canterbury Alliance's Transformational Health Care Vision for the Region
Consent Form for Key Informants

☐ I have been given a full explanation of this project and have had the opportunity to ask questions.

☐ I understand what is required of me if I agree to take part in the research, as outlined in the Information Sheet.

☐ I understand that participation is voluntary and I may withdraw at any time without penalty. Withdrawal of participation will also include the withdrawal of any information I have provided should this remain practically achievable.

☐ I understand that any information or opinions I provide will be kept confidential to the researcher or research Supervisors and that any published or reported results will not identify the participants unless stated otherwise. I understand that a thesis is a public document and will be available through the UC Library

☐ I consent to my authored emails, that have occurred between myself and the researcher throughout the study period of 13th March 2019 to 31st March 2020, been used as part of data collection, data analysis and report writing. I consent to the use of these emails in the following areas:

☐ I consent to the use of my authored emails provided, however the content to remain confidential and anonymous as part of data analysis and report writing.

☐ I consent to the use of my authored emails and consent to my identity been disclosed in relation to data analysis, and the content been referenced as personal communication in report writing.

☐ I consent to emails that I have authored between other parties that I have forwarded or provided to the researcher throughout the study of 13th March 2019 to 31st March 2020 been used part of data collection, data analysis and report writing. I consent to the use of the emails in the following areas:

☐ I consent to the use of my authored emails, provided, however the content to remain confidential and anonymous as part of analysis and report writing

☐ I consent to the use of my authored emails and consent to my identity been disclosed in relation to data analysis, and the content been referenced as personal communication in report writing.

☐ I understand that all data collected for the study will be kept in locked and secure facilities and/or in password protected electronic form and will be destroyed after five years.

☐ I understand the risks associated with taking part and how they will be managed.

☐ I understand that I can contact the researcher *Krystal Short* at krystal.short@pg.canterbury.ac.nz or supervisor *Professor Ray Kirk* or *Professor Ian Coulter* at ray.kirk@canterbury.ac.nz for further information. If I have any complaints, I can contact the Chair of the University of Canterbury Human Ethics Committee, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz)

☐ I would like a summary of the results of the project.

☐ By signing below, I agree to participate in this research project.

Name: _____ Signed: _____ Date: _____

Email address (for report of findings, if applicable): _____

Appendix D: Survey

5/25/2020 Online Survey Software | Qualtrics Survey Solutions

School of Health Sciences
Telephone: +64 0220911330
Email: krystal.short@pg.canterbury.ac.nz
15/07/2019
HEC Ref: [2019/44/LR]

A Study of Registered Chiropractors' Participation in Canterbury District Health Board and Canterbury Alliance's Transformational Health Care Vision for the Region

Information Sheet for Registered Canterbury Chiropractors

1. *My name is Krystal Short, I am undertaking research for the requirements of the Masters of Health Science programme through the School of Health Sciences, at the University of Canterbury. I work in conjunction as a Registered Chiropractor and have a background as a Registered Nurse. My current research topic is looking into the recent policy changes made by the Canterbury Alliance within the Canterbury District Health Board, to include Chiropractic on the Allied Health Committee and the Electronic Resource Management System (ERMS) e-referral database for referral of musculoskeletal conditions. The Allied Health*

5/25/2020

Online Survey Software | Qualtrics Survey Solutions

Committee Chiropractic Representative has liaised with the Canterbury Chiropractors about the opportunities to sign up or contribute to health care initiatives within the region. The objectives of this study are: the research firstly, seeks to ask why have so few Chiropractors (12/67 Chiropractors at the time of starting the research) residing within the region of the Canterbury District Health Board signed up to the ERMS GP e-referral database; secondly, to investigate how a broader inclusion beyond a legislative level under the Health Practitioner Competence Act could be achieved; thirdly, to investigate whether there are perceived risks to the Profession by Chiropractors, under the Health Practitioners Competence Assurance Act 2003 of not participating in or having an understanding of Canterbury Alliance or Canterbury District Health Board policy; fourthly, to identify professional, practice and system factors that are influencing this current situation.

You have been approached to take part in this study because you are a Registered Chiropractor residing in the region of the Canterbury District Health Board. I have located your contact details by asking either the New Zealand Chiropractic Board, New Zealand Chiropractic Association or Canterbury Alliance, Allied Health Committee Chiropractic Representative to distribute this information to you.

If you choose to take part in this study, your involvement in this project will be to undertake a 15 minute survey. Survey information will be recorded through the Qualtrics survey instrument system endorsed by the University of Canterbury.

Participation is voluntary and you have the right to withdraw at any stage without penalty. You may ask for your raw data to be returned to you or destroyed at any point. If you withdraw, I will remove information relating to you. However, once analysis of raw data starts in November 2019, it will become increasingly difficult to remove the influence of your data on the results.

The results of the project may be published, but you may be assured of the complete confidentiality of data gathered in this investigation: your identity will not be made public without your prior consent. To ensure anonymity and confidentiality. If undertaking a survey, you will not be asked to provide your name or contact

5/25/2020

Online Survey Software | Qualtrics Survey Solutions

details. This information will be stored electronically in Qualtrics via the license agreement in place with the University of Canterbury. It will be password protected and only the researcher will have access to online data. Informed consent forms and research data will be kept separate. All data will be stored in a locked filing cabinet in the Health Sciences Department at the University of Canterbury. The named Researcher and Supervisors will be the only people who will have access to this research data. All data will be terminated after 5 years. A thesis is a public document and will be available through the UC Library.

As a follow-up to this investigation, you may be asked to either clarify information or offer further information that would enable the researcher to better inform the study.

In the performance of the tasks and application of the procedures there are risks of

1. *Whilst mental and emotional distress is not expected as a result of participation in this research, there is the possibility that this could occur, if a participant wishes to discuss any issues raised from their participation within the study, they are advised to contact their health practitioner in the first instance.*
2. *Whilst procedures have been undertaken to ensure moral and cultural offence is not intended in this study, if the participant believes moral or cultural offence has occurred, they should communicate their concerns with the Chair of the University of Canterbury Human Ethics Committee.*
3. *Any information whereby you are asked to declare your association to a specific group, such as the New Zealand Chiropractic Association or Canterbury Alliance, will be kept anonymous.*

The project is being carried out as a requirement for the degree in Masters of Health Science by Krystal Short under the supervision of Professor Ray Kirk and Professor Ian Coulter who can be contacted at ray.kirk@canterbury.ac.nz They will be pleased to discuss any concerns you may have about participation in the project.

Please be informed the researcher is the recipient of the New Zealand Chiropractic Association's Mackay Post Graduate Scholarship 2019. Please be informed the researcher is also the recipient of a Hamblin Trust Fund grant award, which is a research fund for Chiropractic research in New Zealand

5/25/2020

Online Survey Software | Qualtrics Survey Solutions

This project has been reviewed and approved by the University of Canterbury Human Ethics Committee, and participants should address any complaints to The Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

If you agree to participate in the study, you are asked to complete the consent below prior to conducting an electronic survey

INFORMED CONSENT

I have read the above and consent to participate

- ☐ Yes
- ☐ No



Powered by Qualtrics 

5/25/2020

Online Survey Software | Qualtrics Survey Solutions

Please answer Yes, No, or Don't Know to the following statement
I currently have registered to be on the Electronic Resource Management
(ERMs GP e-referral database)

- ☐ Yes
- ☐ No
- ☐ Don't Know

Please answer the following section that is relevant to you; if you have not signed up to the Electronic Resource Management System (ERMs GP e-referral), then please provide three brief statements why you have not joined, and if you have signed up to the Electronic Resource Management System (ERMs GP e-referral), please provide three brief statements why you have joined.

List **three reasons** why you have **not joined** up to the Electronic Resource Management system (ERMs GP e-referral) through the Canterbury Alliance and Allied Health Committee

Reason one

Reason two

Reason three

Please answer the following section that is relevant to you; if you have not signed up to the Electronic Resource Management System (ERMs GP e-

5/25/2020

Online Survey Software | Qualtrics Survey Solutions

signed up to the Electronic Resource Management System (ERMs GP e-referral), then please provide three brief statements why you have not joined, and if you have signed up to the Electronic Resource Management System (ERMs GP e-referral), please provide three brief statements why you have joined.

List **three reasons** why you **have joined** up to the Electronic Resource Management System (ERMs GP e-referral) through the Canterbury Alliance and Allied Health Committee.

Reason one

Reason two

Reason three

Please answer Yes, No, or Don't Know to the following statement

I have a fax machine or current e-fax in my office/clinic

- ☐ Yes
- ☐ No
- ☐ Don't Know

Please answer Yes, No, or Don't Know to the following statement

I have a Healthlink Portal Account

- ☐ Yes
- ☐ No
- ☐ Don't Know

Please answer Yes, No, Don't Know to the following statement

5/25/2020

Online Survey Software | Qualtrics Survey Solutions

It is too expensive to purchase an e-fax (approx. \$25 per month) to join the Electronic Resource Management system (ERMs GP e-referral database)

- ☐ Yes
- ☐ No
- ☐ Don't Know

Please answer Yes, No, or Don't Know to the following statement

I have previously been consulted on the relevance of having a Health Practitioner Index Identification

- ☐ Yes
- ☐ No
- ☐ Don't Know



Powered by Qualtrics 

5/25/2020

Online Survey Software | Qualtrics Survey Solutions

Please answer Yes, No, or Don't Know to the following statement

I have been **educated** in the role and function of the Canterbury Alliance, Allied Health Committee in the **following areas**:

	Yes	No	Don't Know
Who the Allied Health Committee are	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What their role is	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What is the role of the Chiropractic Representative Liaison	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What is the role of a Clinical Editor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What is the role of the Project Facilitator	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please answer Yes, No, or Don't Know to the following statement

I have been **educated** in the reasons for this policy change, made by the Canterbury Alliance, to include the Chiropractic Profession in the **following areas**:

Yes	No	Don't Know
-----	----	------------

5/25/2020	Online Survey Software Qualtrics Survey Solutions		
	Yes	No	Don't Know
Avoiding the Emergency Department been flooded with acute low back pain cases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
General Medical Primary Health Care practices are at capacity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
General Medical Primary Health care Practices have been recommended to refer all non-urgent musculoskeletal cases to Chiropractic, Physiotherapy and Osteopathy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Approximately 30% of patients entering General Medical Primary Health Care practices are for musculoskeletal conditions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Canterbury District Health Board is running at a financial deficit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Canterbury District Health Board is trying to better allocate resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
That the Canterbury Alliance has recognised how Chiropractic services could help this problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5/25/2020 Online Survey Software | Qualtrics Survey Solutions

	Yes	No	Don't Know
That because the Registered Chiropractic Profession is regulated under the Health Practitioners Competence Assurance Act 2003 you are included on the policy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[→](#)

Powered by Qualtrics [↗](#)

5/25/2020

Online Survey Software | Qualtrics Survey Solutions

Please answer Yes, No, or Don't Know

I have been **educated** about the use of the Electronic Resource Management System (ERMs GP e-referral) database and my expectations within the referral process in the **following areas**:

	Yes	No	Don't know
The database is attached to General Medical Practitioners practice software	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It enables General Medical Practitioners to refer out to applicable services within the Primary and Secondary health care sector	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
That I need either a fax machine, e fax or Healthlink portal account to join	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What is expected of a Chiropractor if a referral is made	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What inter-professional communication is required	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5/25/2020 Online Survey Software | Qualtrics Survey Solutions


	Yes	No	Don't know
That this database could be used by planners and funders to run pilot studies in the future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
That the Online Electronic Resource Management system (ERMs) enables allied health practitioners to refer interdisciplinary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To be on the Online Electronic Referral Management system (ERMs) you need a Health Practitioner Index and Common Persons Number	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>


Please answer Yes, No or Don't Know to the following statement
I have been **educated** in Allied Health Pathways, Health Pathways and Community Health Pathways in the **following areas:**

	Yes	No	Don't Know
How to login and register to the Allied Healthpathways	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What clinical healthpathway's are	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Why they are relevant to your clinical practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5/25/2020 Online Survey Software | Qualtrics Survey Solutions

	Yes	No	Don't Know
How to look up a clinical healthpathway such as low back pain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How to submit feedback on a clinical healthpathway	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Why this is relevant to how you refer and manage you patients within the Canterbury District Health Board	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How to refer you patients to Community Healthpathways	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Powered by Qualtrics 

5/25/2020

Online Survey Software | Qualtrics Survey Solutions

Please answer Yes, No or Don't know to the following statement

I use Allied Health Pathways and Healthpathways as a clinical resource in my clinical setting

- ☐ Yes
- ☐ No
- ☐ Don't Know

Please answer Yes, No, or Don't know to the following statement

I contribute to the feedback on the Allied Health Pathways, Health Pathways and Community Healthpathways

- ☐ Yes
- ☐ No
- ☐ Don't Know

Please list **three key points** that would **help** you utilising AlliedHealthways

Point one

Point two

Point three

Please list **three key points** that would **help** you to sign up to the Electronic Resource Management System (ERMs GP e-referral database)

5/25/2020

Online Survey Software | Qualtrics Survey Solutions

Point one

Point two

Point three

Please answer Yes, Nor or Don't Know to the following statements

I have been **educated** in the use of the Expert Multi-Disciplinary Panel run through the Canterbury Alliance in the **following areas**:

	Yes	No	Don't Know
Who is on the panel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What it is used for	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When you refer to this panel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Where you find information about this panel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Why using this panel is important in appropriate referral management within the Canterbury District Health Board	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please answer Yes, No or Don't Know to the following statement

I am a member of the New Zealand Chiropractic Association

- ☐ Yes
- ☐ No
- ☐ Don't Know

5/25/2020

Online Survey Software | Qualtrics Survey Solutions

How many years have you practised as a Registered Chiropractor

- ☐ Less than 10 years
- ☐ 10 to 20 years
- ☐ 21 to 30 years
- ☐ 31 to 40 years
- ☐ 40 plus years
- ☐ Prefer not to answer

Please answer Yes, No or Don't Know to the following statement

Do you know about the Canterbury Clinical Network Implementation Plan

- ☐ Yes
- ☐ No
- ☐ Don't Know

If you answered yes to the previous question proceed to the following statement, if no stop here.

List **three key points** that you think the Chiropractic Profession could contribute to the Canterbury Clinical Network Implementation Plan

Point one

Point two

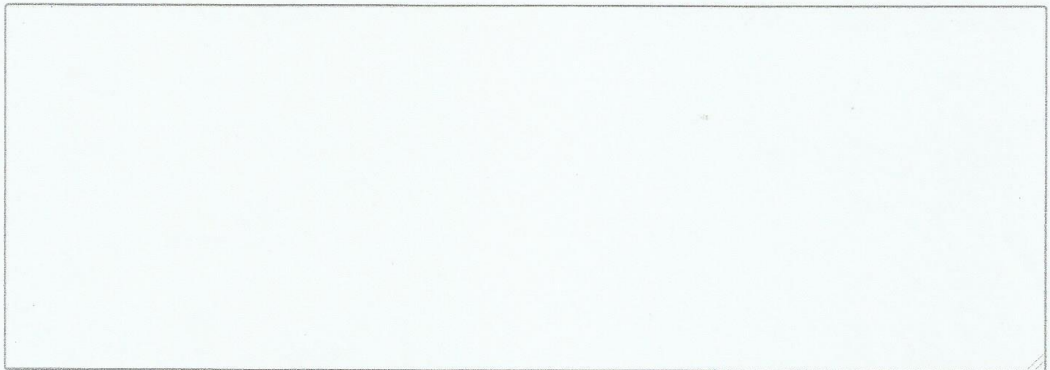
Point three



5/25/2020

Online Survey Software | Qualtrics Survey Solutions

Further Feedback




Powered by Qualtrics [↗](#)

5/25/2020

Online Survey Software | Qualtrics Survey Solutions

You have now reached the end of this survey.
If you decided not to participate thank you for your consideration.
If you have participated, thank you for your time in doing so.

Powered by Qualtrics 

Survey Notes: It was brought to the researcher's attention after the distribution of the survey by the Canterbury Initiative and CDHB that there were inaccuracies in some of the terminology in the survey. The following corrected terminology is detailed below with the relevant questions it pertains to.

Electronic Resource/Referral Management System (ERMS) corrected to Electronic Request Management System (ERMS). Q1, Q2, Q3, Q6, Q10, Q15.

ERMS is a program that interfaces to a database. Q1, Q6, Q10, Q15.

Canterbury Alliance corrected to Canterbury Initiative. Q2, Q3, Q8, Q9, Q16

Allied Health Committee corrected to Canterbury Initiative Allied Health Team. Q2, Q8

Allied Health Pathways corrected to Allied Healthways. Q11, Q13.

Expert Multidisciplinary Panel corrected to Low Back Pain Multidisciplinary Panel (MDP). Q16

HealthPathways, refer to definition in glossary means four sites Allied Healthways, Community HealthPathways, Hospital HealthPathways and HealthInfo. Q12, Q13, Q11.